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Competing Conceptions and Their Ethical Implications

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ISBN 978-1-4020-8618-2 e-ISBN 978-1-4020-8619-9

Library of Congress Control Number: 2008928518

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Printed on acid-free paper

9 8 7 6 5 4 3 2 1

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Preface

My interest in animal welfare as an academic topic developed during the decade that I was a member of the University of Florida Institutional Care and Use Committee (IACUC). As the usually lone dissenter to most protocols that came before the committee, I felt that I needed to develop a philosophy of animal care and use that I could appeal to in justifying my dissent. This led me to the idea of *constructed consent*, a notion often appealed to when adults have to make decisions for those incapable of making them. It occurred to me that if I thought the proposed use of an animal turned out to be a good deal for the animal, in my judgment, then I was willing to approve of it. I develop this notion further in Chapter 5 of this book. When the Committee was charged with developing a plan to *promote the psychological well-being* of the non-human primates that the University housed, I became fascinated with the difficulties that many academics faced in conceptualizing this notion and I began to think that their conceptualization was influenced by the disciplinary matrix within which they worked. This idea of a disciplinary *ideology* I learned from Bernard Rollin's book *The Unheeded Cry*, and I am deeply indebted to him for it. This interest prompted me to apply for a grant from the Ethics and Value Studies branch of the National Science Foundation in 1993 to study this phenomenon. The grant enabled me to visit many primate centers and conduct interviews with primatologists. After a number of delays, due largely to APHIS's putting the responsibility on a select committee, who did not publish their findings until 1998, my publication of the results of my study was delayed.

Meanwhile, I began to expand my concern about disagreements and difficulties in conceptualizing psychological well-being to the broader topic of animal welfare, thinking that if "welfare" meant the same thing as "happiness," then there should be no real disagreement between so-called welfarists and so-called liberationists, unless one really believed that using animals in research and for food was consistent with these animals being happy, which seemed unlikely to me. And it turned out to be the central thesis of this book that "welfare" in the traditional use of this term, as opposed to its use within a system of helping the poor ("welfare payments") really does mean happiness and if so-called "welfarists" believe that their proposed use of animals for research and food is consistent with their happiness, then they have conceptualized welfare in an odd way, to say the least. After much reading, I realized that welfarists, for the most part, have attempted to appropriate the concept of animal welfare, claiming that their scientific approach to understanding the nature of their animals gave them a privileged comprehension that "sentimental" liberationists/abolitionists lacked. The issue, then, is how to correctly conceptualize "animal welfare," and the disagreements between user advocates and abolitionists was really a competition between correct conceptualizations, hence "competing conceptions of animal welfare." The first part of this book focuses on how those justifying the use of animals in biomedical research were able to do this. I have tried to reconstruct the history of this "welfarist" movement, beginning with its origin in London with UFAW and with the development of a separate movement in the US with the Animal Care Panel and its initial negative reactions to importing the UFAW influence into the US via the Animal Welfare Institute.

The second part of the book shifts from lab animal users to the use of animals for food and focuses on food animal welfare scientists and their philosophical supporters. Here I am grateful for the thoughtful writings of Bernard Rollin, Ian Duncan, David Fraser, Peter Sandoe, Michael Appleby, and L. Nordenfelt, all of whom I criticize for their conception of welfare or their defense of food animal use as ethical, assuming that the treatment of these animals is properly reformed. While I am not opposed to their efforts to reform the food animal industry, I am critical of their apparent support of a reformed industry.

My own position about using animals or controlling their environments is that users or controllers have an ethical obligation to provide a rich environment that will enable the animals to flourish, to use a term that Martha Nussbaum uses, or, that they find justifiedly satisfactory (Sumner's notion of autonomy). This would preclude most uses of animals in biomedical research and certainly precludes using them for food (unless they are already dead, or unless killing them painlessly when their lives have reached a point where they are sufferings – Gary Comstock's position). In effect, therefore, I am an abolitionist. I do not agree with Singer's utilitarianism and I find Tom Regan's rights theory overly narrow. I agree with him that animals are "subjects of a life" but I think their rights are broader than the negative "leave them alone" rights that Regan gives them. Also his position does not seem to leave any room for a philosophy of wildlife management, especially in cases where humans have influenced the environment in ways that are harmful to some species. My position is practically identical to the one that S. F. Sapontzis develops in his 1987 book.

I am indebted to a number of people and institutions for the role they have played in enabling me to write this book. First of all, I am indebted to Farol Tomson, University of Florida University Veterinarian who initially invited me to join the University of Florida IACUC and who supported me in putting forth dissenting views. It was this initial experience that aroused my interest in this topic. I am also indebted to the UF for making it possible for me to attend IACUC workshops in Settle and San Antonio. Of course, I am especially indebted to Rachelle Hollander and to EVS/NSF for funding my proposal to do an analysis of the influence of disciplinary matrices in conceptualizing psychological well-being.[1] This grant enabled

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[1] NSF grant No. 93020113. 1993. *Competing conceptions of Welfare in Laboratory Animal Welfare Issues and their Implications for Professional Autonomy in Defining the Concept of Well-being.*

me to visit primate centers in Seattle, Phoenix, Atlanta, and Tufts and I am grateful for those at this center who graciously put up with my interviews. The grant also enabled me to spend a week in Washington, DC and Belstville, where I was able to make use of the National Ag Library, and to interview various people, including Tom Wofle of ILAR, Lee Krulisch of SCAW, Leo Whitehair and Louise Ramm of NIH-NCRR, Neal Wilcox of FDA, Nelson Garnett, Kathryn Baine, and Louis Sibal of NIH, Mary Beth Sweetwater of PETA, Marty Stevens of HSUS, Mike Kreger at AWIC, Senator John Melcher, and Andrew Rowan at Tufts. APHIS allowed me to go through hundreds of comments on the proposed regulations regarding psychological well-being and to make copies. I am especially grateful to Barbara Orlans and Gaza Telecki, who graciously allowed me to interview them in their homes and who presented me with alternative views about SCAW and about the initial committee report on the psychological well-being regulation, a report that was ultimately rejected. I am also deeply indebted to Nelson Garnett and J. Derrel Clarke, who sent me copies of two works that I could not obtain elsewhere.[2] These books were invaluable in reconstructing the history of lab animal welfarism in the US. I am also indebted to Christine Stevens, who provided me with a complete set of the back issues of the *Animal Welfare Institute Information Report*.

I am especially grateful to Bernard Rollin, Ray Anthony, and Jason Evans, who read earlier versions of this book and provided helpful comments.

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[2] Clark, J. Derrell (1991), *American Association for Accreditation of Laboratory Animal Care. History. Silver Anniversary. 1965–1990.* McPherson, Charles W. and Steele F. Mattingly (eds.) (1999), *50 Years of Laboratory Animal Science*, Sheridan Books.

Introduction

The Plan of the Book

The thesis of this book is that members of what I shall call the "animal welfare science community,"[3] which includes both scientists and philosophers, have illegitimately appropriated the concept of animal welfare by claiming to have given a scientific account of it that is more objectively valid than the more "sentimental" account given by *animal liberationists*. Since its beginnings in the mid-1920s, this strategy has played a major role in arguing for merely limited reform in the use of animals, and is frequently employed or assumed by those in what Jasper and Nelkin (1992) call the *animal welfare movement*,[4] as distinguished from the *animal rights* or *animal liberationist* movement. This strategy was initially employed as a way of "sympathetically" responding to the abolitionist claims of anti-vivisectionists, who objected to the use of animals in research. It was subsequently used by farm animal welfare scientists.

In linking what I am calling the animal welfare science community to the Animal Welfare Movement, I am claiming that the primarily reformist (as opposed to abolitionist) goals of this community seem to implicitly assume that there are conditions under which animals may be raised and slaughtered for food or used as models in scientific research that are ethically acceptable. While reformists do not need to make this assumption,[5] the tendency of the animal welfare science community is to accept this assumption as their framework of inquiry, and thus to discount certain practices as harmful to the interests of the animals that they affect. For example, animal welfare is conceptualized in such a way that death does not count as harmful to the interests of animal, nor prolonged life a benefit. In addition to this *prudential value assumption* (the assumption that life itself has no value for an animal), some members of this community have developed strategies for defending suitably reformed farming practices as ethical even granting that death and some other forms of constraints are harms. One such strategy is the fiction of a *domestic contract.*

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[3] I shall later distinguish between scientists involved in trying to improve the housing conditions of animal models used in scientific research, which goes back to the mid-1920s in Great Britain, and the 1950s in the US, and animal scientists responding to the Brambell Commission report, who self-consciously adopt the nomenclature "animal welfare science."

[4] I criticize this fiction in a later chapter.

[5] Rollin (1995, Preface), Sandoe et al. (2003, pp. 475–476), and others, for example, argue that what they call a "middle position" is a more effective strategy in improving the lives of animals, implying that while suitably reformed practices fall short of the ideal, it is better to work for improvement of an exploitative practice when it is more likely to be successful than working for total abolition of the practice.

To support my thesis that members of the "animal welfare science community" have illegitimately appropriated the concept of animal welfare, I shall adopt the following strategy in this introduction. First I will give a brief overview of the ways in which various members of the animal welfare science community [*see note 1 above on "animal welfare scientists"*] have addressed the problem of conceptualizing welfare and also the strategies that some have used to justify as ethical what would otherwise be thought of as exploitative practices.[6] Then I will sketch out an account of what I consider to be a philosophically accurate conceptualization of animal welfare and suggest what implications this account has for which uses of animals should be regarded as ethically acceptable and which uses unacceptable.

I have divided the book into several parts. In Part I (The Science of Laboratory Animal Care and Welfare), I examine the ways in which laboratory animal scientists responded to critics of their use of animals by claiming to have a more authoritative, scientifically grounded understanding of animal care and welfare than the critics have. I start with an account of the beginning of the "animal welfare movement" in the founding of the Universities Federation of Animal Welfare under the leadership of Major C. W. Hume and then describe the early responses of scientists in the US to critics and to the immigration of the British welfare movement to the US and its interactions with what I will call the *animal care movement* in the US.

In Part II (The Emergence of the Science of Food Animal Welfare Mandated by the Brambell Commission Report), I focus on the emergence of the science of food animal welfare mandated by the Brambell Commission Report, the various conceptions of animal welfare developed or assumed by animal welfare scientists and their co-philosophers and the accounts they give of their "value assumptions" and the ethical concerns to which they are related and how these accounts function to justify what I call the on-going appropriation of the concept of animal welfare. Since the body of animal welfare science literature is extensive, I will select several reflective representatives of this movement for this examination of value assumptions.

In Part III (Giving Animals What We Owe Them), I describe the ethical implications that have been drawn from these competing conceptions within the animal welfare community and criticize them, focusing on certain versions of the "fair deal" argument and on the idea of a contract that farm animals made to be used for food. The contract model, I argue, is misused to draw justifications for the continued exploitative use of animals for food and research. Finally, I explore the ethical implications of what I consider to be the correct conceptualization of the notion of animal welfare and consider what role a suitably reformed animal welfare science might play in informing us about how we should treat animals under our care.

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[6] By exploitative, I mean practices that unethically sacrifice the interests of the exploited to the benefit of the exploiters.

Animal Welfare vs. Animal Liberation

Jasper and Nelkin (1992) distinguish among animal protectionist groups, welfarists, pragmatists, and fundamentalists. "In the humane tradition of the ASPCA, animals welfarists accept most current uses of animals, but seek to minimize their suffering and pain. They view animals as distinct from humans, but as objects entitled to compassion" (p. 8). On the other hand, the more fundamentalist groups want "animal rights" or liberation from oppressive or exploitative uses. I refer here to this distinction because I want to introduce my own distinction between two ways of opposing current practices. People (perhaps those Jasper and Nelkin call "pragmatists") who want to liberate animals from uses that compromise their welfare, but believe that the most effective way of doing this, at least currently, is to join hands with "welfarists" who want to change current practices so that they are more humane, I will call *reformists*$_1$ (or *pragmatic reformists*). The members of this group share a certain conception of animal welfare and a certain ideal of which practices are ethically acceptable, but are content, at least for the moment, in working to improve conditions even if the improvements fall far short of this ideal. The second group I will call *reformists*$_2$ (or *humanist reformists*). This group may share the same conception of welfare, and some of the ideals of the first group about changing current practices, but find that suitably reformed practices, though they compromise the welfare of the animals involved in them, are nevertheless ethically acceptable. I will use the term *reformism* to describe the commitment of this second group, even though this term has been used in several different ways,[7] especially to denote in a negative way those who devote their efforts to working for reforms in a piecemeal fashion. In my use of the term here and elsewhere in this book, *reformism* does not refer to those who think that it is pragmatically more effective to work for reforms rather than simply to advocate the total abolition of oppressive practices.[8] While I applaud reformists$_1$, I object to reformists$_2$ throughout the book because either they embrace an ethical position that warrants oppressive uses of animals or they conceptualize animal welfare in a way that legitimizes what I consider to be oppressive uses.[9]

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[7] See, for example, http://www.marxists.org/glossary/terms/r/e.htm and http://www.worldsocialism.org/spgb/mer02/reform.html

[8] Midgley (1986) uses the term *reformism* in the more positive pragmatic sense in her Hume Memorial address to UFAW. Here she makes a plea for liberationists and reformists to work together

[9] For a critique of reformists, see Francione (1996).

As Varner (1994) points out, the distinction between welfarists and liberationists is not always a hard and fast one. For example, while Singer appears to be a liberationist, he does not object to using animals in research or for food if they are used in ways that do not compromise their welfare, or, if their use really does improve the general welfare of the sentient population. And since Singer does not seem to count death as a harm for animals that lack a self-concept (1979), for those who argue that it is a harm because it forecloses the possibility of future pleasures, Singer could be called a reformist_2 and guilty of reformism. Even my own position allows for the ethical use of animals employed for their services as long as they are suitably rewarded for these services and their welfare is not compromised. In fact, I would argue that if animal welfare is correctly conceptualized, one could properly call oneself an animal welfarist and also an animal rightist. The point of this book concerns the proper conceptualization of animal welfare.[10]

The Animal Welfare Movement: A Brief Overview

The animal welfare movement's origins can be traced to the founding of the University of London Animal Welfare Society, shortly thereafter renamed the Universities Federation of Animal Welfare (UFAW) in 1926 by Major C. W. Hume based on his belief that "animal problems must be tackled on a scientific basis, with a maximum of sympathy but a minimum of sentimentality" (UFAW www.ufaw.org.uk/History). While the early work of UFAW seems to have focused on the protection of wild animals and more humane ways of trapping animal "pests," in 1946 it published "[t]he first ever laboratory animal handbook to improve the management and welfare of experimental animals …" (UFAW web site history page) and in 1966 published its first handbook on the welfare of farm animals, and followed with subsequent editions of the lab animal handbook in 1957, 1967, 1972, 1976, 1987, and 1999. It also published a special edition of the highly influential book by W. M. S. Russell and R. L. Burch (1959). *The Principles of Humane Experimental Technique* in 1992. UFAW began publishing a journal devoted to the science of animal welfare in 1992 (*Animal Welfare*).

In 1964, Ruth Harrison published her book *Animal Machines*, which produced such a stir in the UK that the Brambell Committee was formed to report on the state of animal welfare in the use of animals in the UK. The Brambell Committee's report (1965) said, "Welfare is a wide term that embraces both the physical and mental well-being of the animal. Any attempt to evaluate welfare, therefore, must take into account the scientific evidence available concerning the feelings of animals that can be derived from their structure and functions and also their behavior" (Duncan, 1981). The report was taken as a mandate for animal scientists to undertake a study of animal welfare, and self-styled animal welfare scientists tend to trace their origins to this mandate.

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[10] I want to make it perfectly clear from the outset that, following Sapontzis (1987), I would call myself an *abolitionist* in regard to using animals in biomedical research and for food, even though I can imagine situations where their use is research is not harmful to their interests.

Partly in response to the Brambell Report, the RSPCA in 1972 created scientific advisory committees on farm, laboratory, and wild animal welfare [see p. 54 of Richard Ryder's brief description of these efforts in Chapter 3 of his *The Political Animal. The Conquest of Speciesism* (1998)]. The creation of these committees was the second major source for the development of the science of animal welfare. The efforts of these committees and the research funding that they gave to scientists "helped to trigger a new field of scientific study" (Ryder, 1998, p. 55).[11] In the 1980s, the RSPCA "established its own in-house scientific departments" (Ryder, 1998, p. 55), and began publishing its own *Science Review* in 1991.

In the US, the works of the Animal Care Panel, and subsequent efforts by the American Association of Laboratory Animal Science (AALAS), the American Laboratory Animals Accreditation Committee (ALAAC), the Institute for Laboratory Animal Resources (ILAR), the American College of Laboratory Animal Medicine (ACLAM), and the National Institutes of Health (NIH) were the major sources of the idea of a scientific approach to lab animal care and the emergence of "lab animal science." Here the major theme was also that good science requires well cared for animals. The US based Animal Welfare Institute, under the leadership of Christine Stevens, tried to introduce the language of "animal welfare"[12] and the work of UFAW to lab animal scientists and users in the US in the 1950s, but met with little success until the passage of the various Animal Welfare Acts starting in 1960, which forced the lab animal scientific community to take the notion of animal welfare more seriously and to make some efforts at defining and investigating it.[13] In 1978, Barbara Orlans founded the Science Center for Animal Welfare, which could be seen as the more progressive wing of lab animal science (sort of the US version of UFAW), until Orlans was replaced as its director and a more "scientist oriented conservative approach" took over (Orlans, 1993, personal communication). The debates over the standards regulations mandated by the US 1985 Animal Welfare Act led to a distinction between "engineering" and "performance" standards and to a discussion of the concept of non-human primate "psychological well-being" that the act required users to promote.

There are several common themes in both the animal care and animal welfare versions of this general movement.[14] One theme is that good science requires humane treatment, so that there is both an ethical and a scientific reason for improving the treatment of laboratory animals. But, contrary to the criticisms of the use of laboratory animals by the "antivivisectionists," it is the (reformed?) scientist who is the best judge of what counts as humane care, and reforms should be based on good science rather than "sentiment." This point is repeatedly made by appealing to the opinion of "experts" and the judgment of "professionals." A related theme is the deference to self-regulation as opposed to government-imposed regulation, and a concern to protect the "freedom of the scientist" to make their own decisions about the design of studies using animals. Another theme is the conceptualization of "care," "well-being," and, later, "welfare" in terms of the goals of the scientists using animals and the agencies and institutions supporting research. And when there is a perceived need to take seriously "reformers"' criticisms and adopt some of the goals of the reformers, it is the professional care-givers that operationalize and objectify the norms imposed by the reformers, e.g., "comfort," "health," "exercise."

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[11] See Ryder, p. 55 for other outcomes in the establishment of chairs and modules.

[12] The expression "animal welfare" appears to have first been used by Henry Salt (Salt, 1894 [1980], p. 34) ("the welfare of animals"). Hume seems to have revived this expression, perhaps under the influence of Pigou and the notion of the welfare state.

[13] See Chapter 4 below for an account of the various US welfare acts.

[14] One important difference is that animal carists place restriction on the care given animals only when they are not being used but rejects restrictions on how they are actually used in a study. As Rollin points out (2006), prior to the 1985 Animal Welfare Act, it was common for US scientists in the care tradition to deny that animals felt pain, but those in the UFAW inspired welfare tradition did not make this assumption. The 1985 mandated the use of Animal Care *and Use* Committees to approve proposed research and required the use of analgesics or anesthesia in painful experiments, unless their use interfered with the legitimate goals of the study.

While the efforts of the science of laboratory animal care and use were progressive in helping to significantly improve the conditions under which laboratory animals were housed by improving nutrition, sanitation, disease control, and providing veterinary care for sick or injured animals, they proved conservative of the status quo in their efforts to resist reforms that might put serious restrictions on the use of animals in scientific studies that a richer conception of animal welfare might require. One common feature of the conception of welfare assumed by lab animal scientists and food animal scientists working for reform was that a humane death was not a harm for animals that lacked a concept of their own death, so prolonged life was not to be considered a benefit.[15]

To help clarify the ways in which the more restricted conceptions of animal welfare used to justify continued exploitative use of animal are theoretically unsound, I have constructed my own view of animal welfare (well-being, happiness), using Sumner's (1996) theory of human welfare as a basis for my account of animal welfare and the ethical implications of this account for the human use of animals. I also use Nussbaum's (2004) account of animal flourishing to improve Sumner's theory when it is applied to animals.

Sumner's Theory of Welfare

I have found L. W. Sumner's 1996 book *Welfare, Happiness and Ethics* a good starting place to develop a theory of animal welfare. Sumner's primary focus is on a theory of human welfare and he seems skeptical that we can talk about animal welfare in the same way that we can talk about adult human welfare, but I shall amend it so that it is more applicable than perhaps Sumner thought. Sumner argues for a theory of welfare that is subjectivist, but that avoids some objectivists' criticisms, especially the criticism that a purely subjective account of welfare would seem to justify the claim that, for example, women who are socialized to accept serious restrictions on the types of life that they can live have as good a quality of life as anyone else if they are, in fact, satisfied with their life because they believe that it is the only one they are capable of living (see Nussbaum and Sen, 1993, esp. pp. v–vi and 4–5). Sumner's view is that welfare consists in authentic happiness, the happiness of an informed and autonomous subject. The authenticity requirement obviates the particular objectivist concern mentioned above at the same time that it avoids at least one variety of paternalism.[16] According to Sumner, our life has gone well to the extent that we are justifiably satisfied with it, and we are justifiably satisfied with it to the extent that our standards for a good life have been chosen with as much autonomy as we are capable of achieving. Sumner has no objections to what Parfit (1984, 1986) calls an "objectivist list" theory as long as it is understood to be a list of things that are standardly taken to contribute to or are sources of human well-being, and not a theory of well-being.

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[15] As noted above, even Singer (1979) holds this view.

A possible objection to Sumner's theory, in so far as it contains the cognitive element of assessing one's life, is its generality. We do, in fact, talk about the welfare of non-human animals when we make claims about what is in their interests and what harms or benefits them, so if Sumner's account of welfare does not apply to nonhuman animals, it fails on the criterion of descriptive adequacy, a criterion that Sumner takes seriously. If non-human animals are not capable of performing the cognitive task of assessing their lives, are we entitled to evaluate their lives for them?

Sumner says that one criterion for judging whether someone is well off is to ask them what they think of their quality of life or how their life is going (a technique that social scientists often employ). Of course, we can only rely on their answers to the extent that we think they are authentic (which includes the degree to which the subject has autonomously chosen their aims and goals). But in the case of young children and animals, we have nothing but behavioral or non-verbal information to rely on, like when we make second-person assessments of a person's life without asking them for their own assessment.

Sumner says at least two things about non-human animals (and young children) that require some modification, however. These are 1) his claim that nonhuman animals (and young children) are only capable of experiencing painful and pleasurable sensations and not the wider sense of pleasure as enjoying what they do

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[16] Sumner rejects hedonistic subjectivists theories on the grounds that we can be mistaken about what we take pleasure in, e.g., the fact that we are admired or loved or that we are involved in an intimate relationship. He rejects preference satisfaction theories on the grounds that the satisfaction of some of our desires may not affect our lives if we are not cognizant of the fact that they are satisfied. A number of objections to the theories that Sumner criticizes are given by Parfit in Appendix I of *Reasons and Persons*. According to Sumner, persons are autonomous when their beliefs, or values, or aims, or decisions, or actions, are, in some important sense, their own. What takes away from autonomy is the manner in which the values are formed. But how can we distinguish between manipulative and normal processes? Roughly speaking, an autonomy preserving socialization process will be one that does not erode the individual's capacity for critical assessment of their values, including the very value promoted by the process itself. The real question is how much emancipation from our socialization and social conditions must a subject exhibit in order for their self-assessment to be taken at face-value. The strategy that Sumner defends here is to take these assessments as defeasible.

(p. 141); 2) nonhuman animals are only capable of being (feeling) happy in what Sumner calls the "affective sense of happiness (pp. 146 and 178).

Sumner distinguishes four senses of "being happy." 1) being happy with or about something (being satisfied with it); 2) feeling happy (this may include a judgment that our lives are going well; 3) having a happy disposition (this is the sense in which infants or animals can be happy, despite being unable to size up their lives as a whole); 4) being happy or having a happy life – your life measures up to your expectations of it. This prudential stocktaking is possible only for creatures capable of assessing their lives as wholes. The cognitive component of happiness is beyond the range of children and non-human animals. However, the affective side of happiness in this sense is having a sense of well-being or finding your life enriching or rewarding and this less cognitive demanding sense is what we have in mind in saying that a young child or an animal is happy. But even here it is not enough that life is given a bare positive evaluation. One must also experience one's life as satisfying or fulfilling. His reasons for 1) is his claim that I cannot like or enjoy something without being aware of this fact. But this seems wrong on two counts. While there is some plausibility in saying that I must be aware that I am doing x to enjoy doing x, still I don't have to be aware that I am enjoying it. But there is a sense that I may not even be aware that I am doing x. e.g., I may enjoy showing off without being aware that I am showing off or putting someone down. So if the objection to saying that my dog likes or enjoys chasing after a toy that I throw out and bringing it back to me, or engaging in other forms of play, is that my dog is not able to subscribe to my descriptions of his behavior, then this seems too rigid a requirement for claims about what my dog likes or enjoys, one that we do not apply to humans. Surely we say of someone that they must really like doing x (or enjoy doing x) when we find them doing x with gusto and whenever they get a chance. For example, "You must really like talking to students." Really, what makes you think so?" "Whenever I see you talking to a student, your face seems to light up and you look like you are really enjoying yourself." "Perhaps you are right. I never really thought about it."

For the view of animal welfare that I develop here, however, the important question to ask is whether there are grounds for assessing the authenticity of this behavioral and non-verbal information. If there are not any grounds, then we seem to be left with a rather limited way in which we can speak of animal welfare, and it leaves open the possibility of the position that as animal custodians, we are entitled to manipulate our wards in any way that is convenient to us so long as we reduce suffering as far as we can and ensure a life that is reasonably pleasurable.[17] Sumner raises this issue in a footnote (p. 178, n. 47).

> If a creature is incapable of acting inauthentically, then the authenticity requirement is trivially satisfied. Can non-human animals respond inauthentically to the conditions of their lives? Can this be true, for instance, in the case of domesticated animals whose affective responses have been deliberately engineered, for our convenience, so as to lead them to be

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[17] It may appear strange to the reader that I appeal to the custodian-ward relationship here, but it is my position that any animal "user" who thus limits the freedom of their animals assumes the ethical relationship that a custodian has to a ward, and the ethical obligations that follow from this relationship are similar to the responsibilities that a parent has toward their children.

> satisfied by ways of life that are unnatural to them? If so, then the inauthenticity requirement will apply (non-trivially) in those cases as well, and it may not be safe to conclude that an animal is faring well just because it is happy.

It is not clear to me whether Sumner means by "engineered" genetically altered (bred) or whether he means something broader, like trained or socialized. For example, we could raise an animal from birth in a relatively impoverished environment to expect only to be fed and then left alone. Since it is not aware of "richer" possibilities, and is not suffering from hunger or any ailments that currently cause it discomfort, we could say that it seemed happy with its life.[18] One could object that using the word "impoverished" to describe such an environment, we are assuming that the animal's apparent satisfaction with its life is not justified, and so inauthentic. Sumner seems to address this concern by using the expression "ways of life that are unnatural to them." I assume by "unnatural," Sumner is referring to what he says on p. 180 about the consistency of his subjectivist theory with the possibility of developing a list of *standard human goods*.

> However, it [*the subject-relativity of prudential value*] does not prevent us from generalizing over the conditions which will standardly be experienced as intrinsically rewarding or fulfilling by creatures who share *a common nature* [*my italics*] (such as us). The happiness theory is therefore capable of generating a set of *standard human goods:* such as health, mental and physical functioning, enjoyment, personal achievement, knowledge or understanding, close personal relationships, personal liberty or autonomy, a sense of self-worth, meaningful work, and leisure or play. … Each of these goods has enormous instrumental value for us …

If we assume that caretakers have the ethical responsibility for promoting the welfare of their wards within the limits of the resources available to them,[19] then we have grounds for criticizing "caretakers" who fail to provide authentically happy lives for their wards. And if Sumner means by "unnatural" a life that does not include a significant amount of the goods that a certain kind of animal is capable of finding instrumentally valuable to it, were that animal exposed to those goods and conditioned or trained or socialized such that they are capable of finding them instrumentally valuable, then we do have grounds for criticizing "caretakers" who fail to provide authentically happy lives for their wards.

We have, then, in regard to animal welfare, two important questions: (1) how can we tell what goods would be instrumentally valuable to wards that have the natures that these wards have; and (2) what ethical responsibilities do animal custodians have toward their wards when they raise them for food or use them in scientific research? I assume that the justification for developing and participating in a *science of animal welfare* is to try to answer the first question. In attempting to answer this question, however, there is a danger that the range of possible instrumental goods examined might be limited by the ethical concerns that welfare scientists and their funders see themselves responding to, and this, then, presupposes some answer to the second question.

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[18] One could object that a life devoted to gluttony will produce discomfort later as the animal's health deteriorates. To cover such as case, we could stipulate that the animal in question is also given an appropriate amount of exercise to keep it in good health. The motivation for the exercise could be special treats.

[19] We can make a distinction here, it seems to me, between (1) the responsibilities a caretaker with very limited resources has when they assume caretaker responsibilities, when no one else is willing to do this who has better resources, for a ward who otherwise would suffer or be killed; and (2) the responsibilities a caretaker assumes when they generate the ward in question and raise it in such a way that the ward is constrained from seeking its own welfare. I later make a distinction between *caretaker* and *care giver*.

In order to determine the degree to which the food/farm animal welfare science community can be said to have "appropriated" the concept of animal welfare in ways that serve to justify continuing exploitation, in Part II, I will examine the various "schools of thought" within the food animal welfare science community about what sorts of things have prudential instrumental value for the animal subjects of investigation to see what *value assumptions* these various schools and their critics make, and whether these value assumptions unjustifiably limit the range of instrumental goods that are considered. While there appears to be a growing awareness within this community that such value assumptions are being made, and that these assumptions are tied to how welfare scientists see themselves responding to particular ethical concerns of the public, the critical discourse so far seems to be dominated by critics within the community that accept the legitimacy of raising animals for food, if only it is done by giving appropriate consideration to the animal wards raised for this purpose. To the extent that this is true, then the critical discourse seems limited by the assumption that there is a way that animals could be raised for food that does not violate the ethical responsibilities that animals caretakers have toward their wards, and so presupposes a particular set of answers to question (2) above. The most obvious way in which the two questions are related within this context is based on the assumption that death is not instrumentally harmful to an animal being raised for food and prolonged life not instrumentally valuable. To the extent that this is true, then the caretakers of animals being raised for food are not violating their responsibilities to provide for the welfare of their animal wards by humanely" killing them.[20]

Concluding Remarks

The debate between the outsider critics who advocate external regulation of the way animals are used in research and those who advocate self-regulation by the users (or the user institutions) is a classical example of the larger issue about the management of social dissent about the dangers brought about by technological development. Examples of this dissent can be seen in the demand for greater worker safety, the reduction of risks to consumers (food safety and product safety), and the reduction of risks caused by environmental pollutions. Attempts to manage this dissent have followed a similar pattern: the fact that professionals appear to agree about technical matters is taken as adequate to resolve what are essentially normative disputes (Shrader-Frechette, 1985), and this "reliance solely on expert predictions, as opposed to public evaluations informed by expert opinions, is likely to generate more pro-technology bias." (Shrader-Frechette, 1985. See also the articles in *Science, Technology, and Human Values* 9, 1, Winter, 1984 under the topic, "Linking Science to Policy: The Role of Technical Knowledge in Regulatory Decision making.") The issue about safety, for example, is not about how we define "safety" but how much we should value food safety or the safety of workers versus how much we should value production efficiency or other marketplace values.[21] How we conceptualize disputed concepts such as safety, health, and welfare has important ramifications for public policy and who has the authority to make it. These concepts become contested in an arena of disagreement between experts who tend to reduce them to "scientific concepts" and outsider critics who try to resist this reduction. The focus of this book is on the concept of animal welfare and the contest among its competing conceptions.

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[20] Some have argued that animals could be killed for food only when the animal's life was no longer worth living (see, for example, Comstock, 2000, p. 116).

Value Conflicts vs. Contested Concepts

Although the politicalization of the animal welfare movement and its outcome in the 1985 Animal Welfare Act in the US did not resolve the "conflict in values" to the satisfaction of the abolitionists in the animal welfare movement nor to many of the movement's "reformers," it did succeed, ultimately, in shifting the discourse from a debate about conflicting values (what sort of use of animals is justified) to one about correct conceptualizations. In the US, the appropriation of the conceptualization of animal welfare was already latent in the Act's deference to the "professional judgment" of veterinarians, who were inclined to think of welfare in terms of physical health. The requirement that care-givers promote the psychological well-being of non-human primates used in research, however, gave rise to a research program whose aim was to "define" the concept of nonhuman primate psychological well-being. In Britain, where animal welfare research was more firmly established as a legitimate research program, and subsequently in Europe, there gradually emerged an "experts discourse" about animal welfare, whose primary function, I will argue, has been to construct and normatize the ideal animal research subject (or food animal?). The developing experts discourse on animal welfare has provided a formal bridge between the animal welfare movement and the state, and is dominated by technical disputes about the conceptualization of animal welfare.[22]

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[21] For an example of the reduction of a value issue being resolved by a definition, see Clark and Lehman (2001) and their account of the role of "substantial equivalence" in evaluating the safety of GM food.

[22] See Frazer, N. (1989) for an account of this idea applied to human welfare recipients.

While the existence of technical disputes about the conceptualization of animal welfare has largely improved the treatment of animals used in research, and it may have unsuspected libratory possibilities, it also places scientists (experts) in a privileged position for mediating disputes between critics of current animal use and its defenders, and for dictating the terms for the reconciliation of value conflicts. I shall argue that, since the concept of animal welfare is rather straight forward and not significantly different from the concept of human welfare, attempts to "objectify" the concept are misguided.

Value-Laden Concepts and Their Contested Conceptualizations

A number of philosophers have argued against the claim often made by experts to have authoritative knowledge about conditions or states-of-affairs that people typically value, such as safety or health. Sound judgments about whether a particular food additive is safe, for example, should be informed by scientific information about the additive's possible effects on a person's health. Nevertheless, decisions that have to be made by regulatory agencies (The FDA in this case) are inevitably value-laden decisions. And while physicians are trained to have authoritative knowledge about health, health is a value-laden concept because making people healthy really turns out to be making people better off (and the "better" is a subjective and value-laden matter). And the issue is "how healthy," or with clean air and safe food, "how clean" or "how safe?".

Welfare (at least when applied to humans) is also a normative or value-laden concept, so attempts to provide scientifically objective conceptualization of it should be regarded as suspect. Whether the same is true of welfare when applied to animals is a significant issue that will engage our attention in future chapters. It largely appears that "welfare," in the classical sense of "faring well in one's life," has been largely replaced in the context of animal welfare science by the sense of "welfare" as used in social policy contexts, where it tends to refer to the provision of the means for indigents to meet their basic needs.

Reformists Once Again

While in this work I criticize many people who have devoted much of their life's work to working for reforms in the way animals are treated, I do not mean to imply that their work has been pointless even though I argue that they may be guilty of reformism in the special sense I have given this word. In fact, I applaud the efforts of many of these pioneers, especially people like Rollins, Duncan, Fraser, Appleby, Sandoe, and Nordenfelt. I think "pragmatically" speaking, greater efforts should be put into reducing the suffering visited upon animals in the food industry, for example.[23]

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[23] See Frazer, N., 1989 for an account of this idea applied to human welfare recipients.

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Part I
The Science of Laboratory Animal Care and Welfare

Chapter 1
Introduction

The purpose of Part I is to provide an overview of the emergence of the "science of lab animal welfare:" How did it start? What were its aims and limitations; and what conceptions of animal welfare did it develop? In Chapter 2, I will describe the historical roots of this science in Great Britain. As I said in the Introduction, the historical roots in Great Britain for what I am calling "the emerging science of animal welfare" can be found in the work of Universities Federation for Animal Welfare (UFAW), which was "founded in 1926 as the University of London Animal Welfare Society (ULAWS) by Major Charles Hume, based on his belief that 'animal problems must be tackled on a scientific basis, with a maximum of sympathy but a minimum of sentimentality'" (www.ufaw.org.uk/History).

A second major source for the development of this "science" was the creation of scientific advisory committees within the RSPCA in 1972 on farm, laboratory, and wild animal welfare [see p. 54 of Richard Ryder's brief description of these efforts in Chapter 3 of his *The Political Animals. The Conquest of Speciesism* (London: McFarland and Co., 1998)]. The efforts of these committees and the research funding that they gave to scientists "helped to trigger a new field of scientific study" (Ryder, 1998, p. 55). [See Ryder, p. 55 for other outcomes in the establishment of chairs and modules.] In the 1980s, the RSPCA "established its own in-house scientific departments" (Ryder, 1998, p. 55), and began publishing its own *Science Review* in 1991.

In Chapter 3, I will examine the historical roots of this "science" in the US in the 1950s, starting with the work of the Animal Care Panel and it successor organizations and their rivals. The Animal Care Panel, and subsequent efforts by AALAS, ALAAC, ILAR, and NIH, was the major source of the idea of a scientific approach to lab animal care and the emergence of "lab animal science." The Animal Welfare Institute, under the leadership of Christine Stevens, tried to introduce the language of "animal welfare" and the work of UFAW to lab animal scientists and users in the US in the 1950s, but met with little success until the passage of the various Animal Welfare Acts starting in 1960, which forced the lab animal scientific community to take the notion of animal welfare more seriously and to make some efforts at defining and investigating it.

In Chapter 4, I will focus on the controversies surrounding the US Animal Welfare Act, especially concerning the issue of how welfare is to be operational-

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ized and whose judgments about it are to be considered authoritative. Two of the controversies that emerged out of this debate were (1) how mandated Institutional Animal Care and Use Committees were to function in terms of the principles they should apply, and (2) the issue of how "psychological well-being" was to be conceptualized in implementing the Act's requirement that caretakers had to house non-human primates in ways that promoted their psychological well-being. The debates over regulations governing the housing standards mandated by the 1985 Act led to a distinction between "engineering" and "performance" standards and to a discussion of the concept of non-human primate "psychological well-being" that the act required users to promote. I will look at the Committee issue in some detail in Chapter 5, and try to provide my own views about what principles it should use. And I will look at the problem of how to conceptualize psychological well-being in Chapter 6.

There are several common themes in the work that I will survey below. One theme, as I said in the Introduction, is that good science requires humane treatment, so that there is both an ethical and a scientific reason for improving the treatment of laboratory animals. But, contrary to the criticisms of the use of laboratory animals by the "antivivisectionists," it is the (reformed?) scientist who is the best judge of what counts as humane care, and reforms should be based on good science rather than "sentiment." This point is repeatedly made by appealing to the opinion of "experts" and the judgment of "professionals." A related theme is the deference to self-regulation as opposed to government-imposed regulation, and a concern to protect the "freedom of the scientist" to make their own decisions about the design of studies using animals. Another theme is the conceptualization of "care," "well-being," and, later, "welfare" in terms of the goals of the scientists using animals and the agencies and institutions supporting research. And when there is a perceived need to take seriously "reformers" criticisms and adopt some of the goals of the reformers, it is the professional care-givers[1] that operationalize and objectify the norms imposed by the reformers, e.g., "comfort," "health," "exercise."

Another theme is the resistance by the mainstream scientific community of efforts to reform it from within by marginalizing its scientist critics and replacing nonscience allies with scientists. Another theme is the increasing commercialization of lab animal care.

Beginning in mid-century, we see the emergence of laboratory animal science as the science of animal care and use. While the efforts of its practitioners and supporters were progressive in helping to significantly improve the conditions under which laboratory animals were housed, by improving nutrition, sanitation, disease control, and providing veterinary care for sick or injured animals, they proved conservative in their efforts to resist reforms that might put serious restrictions on the use of animals in scientific studies. I have referred to these efforts as the "roots of the emerging science of animal welfare" because they reflect a commitment to putting animal care on a more scientific basis. However, it was not until outside forces demanded a greater openness to rethinking the conceptualization of animal well-being that we see a changing attitude toward rethinking the goals of animal care. The expression "the science of animal welfare" suggests both the restrictive goal that efforts to improve animal welfare be put on a scientific basis, and the progressive goal that these efforts be investigated in a more open manner and funded more substantially.

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[1] In Chapter 16 and elsewhere I note the distinction that others have made between care giving and caretaking and suggest that professionals who take care of animals that are the property of their clients should be regarded as caretakers rather than caregivers.

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Chapter 2
The Roots for the Emerging Science of Animal Welfare in Great Britain

Hume and UFAW

Major C. W. Hume should be credited as the father of the animal welfare movement. He was instrumental in founding the University of London Animal Welfare Society (ULAWS) in 1926, which subsequently became the Universities Federation of Animal Welfare (UFAW), and he was the first, so far as I can tell, to use the expression "animal welfare," although Henry Salt (Salt, 1894 [1980], p. 34) used the expression, "the welfare of animals." Hume seems to have revived this expression, perhaps under the influence of Pigou and the notion of the welfare state. Hume founded ULAWS based on his belief that "animal problems must be tackled on a scientific basis with a maximum of sympathy but a minimum of sentimentality" (www.ufaw.org.uk/History). His initial work seems to have focused on finding humane ways to kill animal pests. While UFAW has avoided taking a position about the ethical acceptability of using animals in research [see Rule 3 of the UFAW Constitution as quoted in Hume (1957, p. 103): "The Federation shall not engage on either side in public controversies relating to the legitimacy of making scientific experiments on animals. It shall, however, seek the aid of biological research workers and others in fostering in laboratories in Britain and abroad consideration for the physical and mental comfort of experimental animals, avoidance of procedures which involve serious suffering, and the development of techniques calculated to reduce discomfort to a minimum"]. Hume, in several of his writings, seems to condone their use if done so humanely (see Hume, 1958 and the metaphor of sending troops into battle), and he seems to have no objection to killing vermin, again if done so humanely, and killing animals for food (Hume, 1957).

As a pioneer in the development of the "science of animal welfare," Hume argued for the need to study laboratory animals for their own sake, to make their life more enjoyable, and he argued for an anthropomorphic orientation in studying animal minds (Hume, 1962, pp. 93–114). One of his main arguing points in trying to convince the scientific community to be more humane in their treatment of animals was his claim that good science required it. However, in spite of frequent disclaimers (animals have individual personalities, they have emotions, they enjoy playing, etc.), the collections of writings in the various UFAW laboratory animal welfare handbooks

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tended to focus almost entirely on how to provide laboratory animals with a "healthy" (disease free) environment. Because of this emphasis, it is tempting to see both Hume and the work of UFAW adopting the narrower, merely survivalist sense of "welfare" (providing for the needs of the indigent). Perhaps this is because of Hume's analogy of the commander sending his troops into battle. Hume's position seems to have been that it is as acceptable to use animals in the battle against disease as it is to use troops in battles to defend the nation, but, in either case, the commanders have duties to regard "the warm-blooded" nature of their soldiers and provide for their welfare as best they can. Neither lab animals nor humans make good soldiers if their morale is poor (1958). He also maintained that an animal user should not do anything to the animal that the user would not voluntarily to do himself, thus implying that we should be able to construct the consent of the animal if it is used properly. Hume did not hesitate to use the expression "happy" when talking about animals (e.g., Hume, 1956, p. 36).

UFAW published in 1947 its first handbook on the care and management of laboratory animals followed by a number of revised editions over the years.[1] The purpose of the handbook is stated early on: "The duty which man owes to his fellow creatures cannot be adequately discharged if it is approached in an emotional or sentimental spirit, and UFAW accordingly seeks to build up a realistically humane policy based on objective fact." In his forward, Dalling claims that we "... must maintain our animals under conditions that conform to the highest standards of humaneness and will at the same time ensure that our conclusions shall be thoroughly reliable." To ensure this reliability, Dalling thinks that we must rely on "experts." The word "experts" is used throughout the preface to describe the contributors to the volume.

The first chapter is by C. W. Hume ("Law and practice: The Rights of Laboratory Animals"). In this introductory chapter, Hume gives a brief history of British anti-cruelty legislation as well as "overseas" legislation and concludes with a list of desiderata for advancing the humane and ethical use of lab animals. Hume's ethical principle is, "No man has the right to inflict greater suffering than he himself would be prepared to endure voluntarily for the same experimental objective, in the absence of social reasons to the contrary." The desiderata include, in addition to a good supply of lab animals the following:

- More spacious accommodations that approximate as closely as possible to the animal's natural environment
- The need for more research into the psychological conditions that made a happy and contented stock ("Captive animals may suffer acutely from boredom, and they certainly need exercise, companionship and opportunity for play")
- The addition of veterinarians to the inspectorates
- The need to find out as much about pain as possible
- Avoid using wild animals as far as possible

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[1] The Care and Management of Laboratory Animals. Handbook of the Universities Federation for Animal Welfare. With an Appendix on Statistical Analysis. *Edited by Alastair N. Worden, with a foreword by Professor T. Dalling, Baltimore, MD: Williams & Wilkins, 1947.*

The remainder of the handbook consists of chapters on various species and how they should be housed, fed, and kept disease and pest free. There appears to be no mention of relieving boredom and giving opportunities for play that Hume mentions in Chapter 1, except in one case the expression "this rat seems to enjoy picking at bones" is used. In a couple of cases, exercise mechanisms are mentioned.

The 2nd edition of the Handbook, published in 1957 is similar to the 1st edition. It has a Foreword by H. P. Himsworth and an introductory chapter by Hume. The forward mentions a symposium held in 1954 by the Laboratory Animal Bureau at which the view was put forward that we have a debt to animals used in research to treat them as humanely as possible. Another speaker said that we also have another reason to do this, it makes for good science. The forward also lists some current literature on animal care, including publications of the Laboratory Animal Centre, Reference Information File of the Animal Care Panel, publications of the Institute of Animal Resources, Carworth Farms Quarterly Letters, and certain publications circulated by the Animal Welfare Institute.

The 3rd edition, published in 1967, also has an introductory chapter by Hume and four new chapters on nonhuman primates. In the foreword, Sir Peter Medawar makes a number of points about the goal of the publication, which is to enlighten people who run animal care facilities. In the past, he says, these people, while being kindly disposed, were unaware of the animals' needs. He then lists a number of enlightened people and organizations that have tried to put the care of lab animals on a new foundation.

> Since the 2nd ed, the study of lab animals has made further great progress, and the pressures of scientific interest and the ever growing sense of concern for the welfare of lab animals has led to the foundation of the Laboratory Animals Science Association (1963) and the British Laboratory Animals Veterinary Association.

The Preface to the 3rd edition states the goals of UFAW:

> UFAW exists to promote the welfare of animals: It believes that the welfare of animals can only be secured by a deep understanding of their nature, needs, and habits. The pages that follow represent some of the fruits of that deeper understanding. They do great credit to the knowledge and humanities of their authors.
>
> (p. vi)

However, since pain, suffering, and illness are complicating factors that reduce the reliability of a scientist's work, there is a second goal.

> Although UFAW exists to promote the welfare of lab animals for its own sake, animals that are suitable for scientific work are animals that are tame, comfortable, and contented. There is a growing determination to use lab animal economically and compassionately and to make their lives as happy as possible.
>
> (p. ix)

In the introductory chapter, Hume adds to his account of protective legislation the claim that we need anthropomorphism to help us understand the needs of animals (p. 10).

In the 4th (1972) and 5th (1976) editions, the introductory chapter on protective legislation is authored by P. M. Ray and W. N. Scott, and the foreword is now by Hume (UFAW is devoted to animal welfare. "This work has been written by experts in the various field of laboratory animal science.") The history of legislation chapter is now only four pages with no commentary in the 4th edition and 51/2 pages in the 5th edition.

A chapter by W. Lane-Petter on "The animal house and its equipment" seems less sanguine about the coincidence of good science and happy animals:

> The architect designing an animal house has three clients to satisfy: the investigators who are to use the animal house, the animal technicians whose place of work it will be, and the animals who will live all of their lives there. The claims of these three are sometimes in conflict...

A 6th edition was published in 1987. In his Foreword, Andrew Huxley says that UFAW's position is not to defend ethically the use of animals in experiments, but as long as they are going to be used, they should be used humanely. He also notes that humane and efficient use go hand in hand, a point also made in the Preface by Trevor Poole and also in Chapter 1: "Standardization of animals and welfare go hand in hand." Chapter 7, also by Poole, is on legislation and laboratory animals.

UFAW also published a special edition of the highly influential book by W. M. S. Russell and R. L. Burch (1959). *The Principles of Humane Experimental Technique* (the three "Rs") in 1992, and UFAW began publishing a journal devoted to the science of animal welfare in 1992 (*Animal Welfare*).

The RSPCA and Its Science Committees

A second major source for the development of the "science of animal welfare" was the creation of scientific advisory committees within the RSPCA in 1972 on farm, laboratory, and wild animal welfare [see p. 54 of Richard Ryder's brief description of these efforts in Chapter 3 of his *The Political Animals. The Conquest of Speciesism* (1998)]. The efforts of these committees and the research funding that they gave to scientists "helped to trigger a new field of scientific study" (Ryder, 1998, p. 55). [See Ryder, p. 55 for other outcomes in the establishment of chairs and modules.] In the 1980s, the RSPCA "established its own in-house scientific departments" (Ryder, 1998, p. 55), and began publishing its own *Science Review* in 1991.

Ryder describes his own position on welfare as "painism." In Chapter 3 of Ryder (1998). Esp. 67–71, Ryder says that the welfare focus should be on alleviating pain and distress.

In his 1989 book, Ryder reports on the findings of a scientific RSPCA committee under Lord Medway in 1979 about how animals suffer and expands this definition to include other mental states, so the scientific definition of nonhuman suffering widens to include disease, starvation, and mental states such as fear, despair, and those arising from the deprivation of exercise, companionship, or from the frustration of other psychological needs. Later (p. 249), he claims that all major animal welfare organizations opposed the flexible approach advocated by the above committee. In 1983, the RSPCA urged reform re painful experiments – it was opposed to any experiments with pain. There was a counter that there was no definition of pain, This was countered by Prof. Patrick Wall, a leading pain expert, who, however, gives primarily a physicalist or behaviorist account of pain:

> Pain in animals is defined as abnormal behavior which can be alleviated by analgesic procedures which relieve pain in humans. Severe pain in animals is defined as pain produced by procedures to which humans would not voluntarily submit without appropriate analgesia or anesthesia.

The RSPCA web site describes their research animals department as "dedicated to campaigning for the Society's ultimate goal – the replacement of animal experiments with humane alternatives." However,

> As long as animals continue to be used for research, the RSPCA believes that they should receive humane and compassionate treatment at all times. The Society therefore campaigns for measures that will help to replace animals, reduce the numbers used, minimize and preferably avoid suffering, and to improve welfare throughout their lives; not just during experiments, but also as a result of the way that animals are housed, cared for and transported.

In 1985, the British Veterinary Association was instrumental in setting up the first Chair in Animal Welfare in Britain at Cambridge. "Unfortunately its first incumbent Prof. Donald Broom, was quick to distance himself from the animals rights ethics.." (Ryder, 1989, p. 268).

Conclusion

Although there is some recognition by Hume and others that animals experience feelings other than pain, and it is appropriate to talk about "happy animals," so that the skepticism of the behaviorists about animal minds and animal feelings seems missing, with some exceptions, from this early work, nevertheless, two themes seems to dominate that deflect us from thinking about animal welfare in the broader, more flourishing sense that we speak of it in regard to human well-being. One theme is the appeal to experts, and these experts are, for the most part, the scientists who use animals in research. The other theme is the "coincidence" that only well-off animals make good research models, reducing the criteria for animal welfare to the criteria for good science models. And, in the case of the UFAW handbooks, though there are one or two introductory chapters talking about animal welfare, for the most part, the chapters deal with proper housing, where the criteria for good housing is primarily sanitation and health.

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Chapter 3
The Historical Roots of the Science of Laboratory Animal Welfare in the US

In this chapter, I will describe some of the organizations that undertook to set standards for animal care higher than observed in many institutions, at the same time that they argued for the rights of scientists to use animals in their research. Their goals were not unlike those of UFAW, but they were less neutral than UFAW purported to be about the ethics of using animals. They were clearly *vivisectionists* and held anti-vivisectionists in distain. My sense is that they were somewhat less radical than UFAW in the sorts of reforms that they were in favor of, but they echoed the theme, "Good science requires animals that were well-off." They clearly perceived the importation of UFAW backed reforms urged by Gesell, the father of the founder of the US based Animal Welfare Institute (AWI), as unwelcome. They clearly resisted the terminology "animal welfare," though often referred to animal well-being. It is also worth noting that their use of the word "animal care" tended to refer specifically to how animals were housed and not how they were *used* in the actual studies.[1] The 1985 animal welfare act reflects the influence of the Animal Welfare Institute (it is called animal welfare, not animal well-being), but the mandated institutional self-regulation by Institutional Animal Care and Use Committees in its choice of terminology reflects both the influence of the Animal Care Panel and the AWI urged extension to animal use as well. In what follows, I will give a brief historical description of a number of these reformists organizations, all of which supported the use of animals in research. My chief source for many of these organizations is *50 Years of Laboratory Animal Science*, edited by Charles W. McPherson and Steele F. Mattingly, Sheridan Books, 1999 (here after M&M). This commemorative volume has 23 chapters, each with it own author. The first chapter is entitled "The Architectonic of Laboratory Animal Science." The goal of this science, according

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[1] Mulder, in the introductory chapter in McPherson and Mattingly (1999) says that the objective "of AALAS is to remain the primary leader in the arena of animal care and use." But this was written in 1999. It was common after the 1985 animal welfare act to include use. See, however, Clark (1991, p. 38): "As early as 1966, Dr. Cohen reported to the Board of Trustees that the Council believed that eventually it would be necessary for AAALAC to evaluate animal use as well as care." See also *The Physiologist* 1960(3): p. 49, which states the Guiding Principles in the Care and Use of Animals suggested by the APS Committee on the Care and Use of Animals and approved by the Council of the APS.

R.P. Haynes, *Animal Welfare: Competing Conceptions and Their Ethical Implications*,
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to the author of this chapter, is to provide more information about humane care. An additional source is Clark (1991).

I will begin with the Animal Care Panel, and go on to give some historical descriptions of other non-governmental organizations, some of which evolved out of the Animal Care Panel, as well as some governmental organizations that co-operated with the non-governmental ones. All of these can be thought of a part of the animal welfare movement. Here is a list of these organization together with the appropriate acronyms that I will use to refer to them: I am including HSUS and PRM&R because these organizations were less clearly opposed to the use of animals in research than most other animal protective organizations, but they also were not affiliated with user institutions, like the other groups were. One further note here. In calling this chapter the historical roots of the science of laboratory animal welfare, I do not mean to imply that there emerged a "science of animal welfare" that was mandated to study animal welfare in the more formal way that the scientists involved in farm animal welfare studies self-consciously called themselves "animal welfare scientists." Most of the organizations I am going to describe appeared to think that there was already an adequate body of animal welfare information that was scientifically based, and this was acquired by animal users and veterinarians.

Animal Care Panel (APC)
Association for the Assessment and Accreditation of Laboratory Animal Care (AAALAC)
American Association of Laboratory Animal Scientists (AALAS)
American Physiological Society (APS)
National Society for Medical Research (NSMR)
Animal Welfare Institute (AWI)
Humane Society of the United States (HSUS)
National Institutes of Health (NIH)
Institute for Laboratory Animal Resources (ILAR)
The American College of Veterinary Medicine (ACLAM)
Animal Resources Branch of the National Institutes of Health (ARB)
Laboratory Animal Sciences Program (LASP)
Scientists Center for Animal Welfare (SCAW)
Public Responsibility in Medicine and Research (PRM&R)
National Association for Biomedical Research (NABR)

The Animal Care Panel and Its Successors

The history of the Animal Care Panel and its subsequent change of name to the American Association of Laboratory Animal Scientists (AALAS) is presented in a commemorative volume (50 Years of Laboratory Animal Science, *edited by Charles W. McPherson and Steele F. Mattingly*). A small group organized a forum held on November 28, 1950. Following the forum, the group decided to call itself the Animal Care Panel. Its purpose was to facilitate the gathering of information about improving the care of laboratory animals. “The group recognized a moral obligation to grant those animals we use for our benefit every practical consideration for their comfort and well being” (Brewer, Chapter 1 in M&M, p. 10). The Panel grew out of meetings of a small group at the University of Chicago, N. R. Brewer, Elihu Bond, Bennett J. Cohen, R. J. Flynn, and Schroeder. According to Mulder (Chapter 2 in M&M),

> The provision of adequate and compassionate care for research animals was initially the desire of veterinarians, research investigators, and animal care personnel. In 1946, a few of these dedicated individuals began meeting in the animal facility office at the University of Chicago to exchange ideas and information, with the primary goal of improving the care, comfort, and health of animals.... Early efforts to enhance the well-being of research animals were not undertaken by humane or animal welfare groups but, rather by those involved in the actual care and use of laboratory animals.

The first open meeting was held in 1950 with 75 attending, the second meeting in 1951 with 132 attending, the third in 1952 with 150 attending. The fourth, held in 1953 had 182 in attendance (Young, 1954). In his address, President Young notes the developing big business of animal research and the progress in developing animal facilities at his home institution (Northwestern University Medical School), and the institution of a separate Department of Animal Care. He concludes, “The laboratory animal has now become of age with better standards of living, and with an increasing number of research men applying more and more thought to his welfare.” The fifth annual meeting also held a symposium on laboratory animal regulation laws (pp. 106–125). While the majority of papers in the sixth annual meetings were on lab animal diseases and feed and feeding issues, one paper was on the “Care and protection of live animals in transit.”

The Animal Care Panel became a nonprofit educational association in 1953. *Standards for the Use of the Dog in Medical Research* was published in 1952. And standards for animal care were developed. The first *Proceedings of the Animal Care Panel* was published in 1951. A fourth (1953), fifth (1954), and sixth (1955) proceedings of the annual meetings were subsequently published. After moving to the New York Academy of Science in 1955, ACP began a quarterly publication of the *Proceedings of the Animal Care Panel* in 1956 (Mulder in M&M, p. 12). The majority of the articles in these proceedings are concerned with housing, feeding, and breeding of animals for the purpose of obtaining good research subjects. One exception is the contribution by W. Lane-Petter (1953). In assessing the British 1876 Cruelty to Animals Act, Lane-Petter says the following (pp. 128–129):

> On the whole, the Act has been a good one, despite certain clumsy administrative points. If it has, through the machinery of licensing, added a paper burden to the scientist, it has held an umbrella over his head [*by protecting him against malicious legislation — as explained earlier in the article*]... The much more serious question is: has the Act, which places a powerful veto in the hands of a government department, hindered scientific advance?
>
> Practically all who have worked under the Act would answer no. At the worst it has been a nuisance, but rather in the sense of having to pay an insurance premium. At the best, it has given effect to that principle first put forward by scientists themselves, that there are limits to the legitimacy of painful experiments on animals.

> One of the greatest crimes of the anti-vivisectionists is that, by attacking animal experimentation on principle, they have compelled scientists to condone on principle, what may have been ethically questionable. Now this is a serious consequence of emotions run riot. Fortunately today the vivisection controversy is, at least in Great Britain, moribund; the cult will, no doubt, continue, but it no longer cuts much ice. Medical and veterinary science, with the aid of guinea pigs, mice, rats, dogs, and the rest of them, has made such startling progress in recent years that to tell the story is to convince all but the irreconcilable. And this is having a very encouraging result, for we can now see who are the real benefactors of animals. They are not the anti-vivisectionists, whose immoral propaganda had made suspect the very phrase animal welfare. No, they are the scientists who have to do with animals, who understand their needs, and who can admit that the use of animals in the course of experimental work carries with it an obligation of humanity towards these animals. The British Research Defense Society, like the American National Society for Medical Research, whose first function was to combat the antivivisectionists, can now take a more positive attitude and state that the proper care of animals is not only scientifically desirable but an ethical obligation.
>
> It is not the first time, nor yet, I suppose the last, that human controversy has been based upon false premises. The science-versus-religion controversy of the nineteenth century is a good case in point. Nor are science and humanity at cross purpose. In demanding good animals for experiments, scientists demand well cared for animals, and it is no accident that modern methods of animal care should work for the good of both science and the animal. It is no accident either that attention to this aspect should have been aroused simultaneously on both sides of the Atlantic.[2]

In 1960, a Professional Standards Committee was formed to develop professional standards for laboratory animal care and facilities. The name was changed to Animal Facilities Certification Committee and in 1963 to Animal Facilities Accreditation Board. In 1965 this board became a nonprofit and its name was changed to American Association for Accreditation of Laboratory Animal Care. (For a history of AAALAC see M&M, Chapter 6, pp. 39–46.) In 1961, the ACP began publishing the *ACP Bulletin*. It was decided that ILAR would focus on developing animal care standards with the ACP centered on advancing accreditation of facilities and care. As a result, in 1963 ACP produced and ILAR published *The Guide for Laboratory Animal Facilities and Care* (M&M, p. 12).

In 1963, the organization's publication was changed from the *Proceedings of the Animal Care Panel* to *Laboratory Animal Care* (M&M, p. 13).

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[2] Marti Kheel, in "Vegetarianism and Ecofeminism," (2004) distinguishes between caretaking and caring for or about nonhuman animals. I will use this distinction to challenge the idea that animal caretakers are concerned about the animals themselves that they are in charge of. Rather, these animals are regarded as property and the caretaker is concerned with preserving the value of the property. In the case of laboratory animals, the criteria for being in good condition is that the animals serve as a proper model for scientific study. Care givers, on the other hand, give care because they are concerned about the person they are caring for. In the passage just quoted, it is clear that scientists demand "good animals for experiments" and good care equates with good models.

APS, NSMR, and the AWI Challenge

The influence of UFAW on the scientific community and the pressure to institute reforms in laboratory animal care and use in the US appears to have been channeled through the Animal Welfare Institute, which was founded in 1950 by Christine Stevens. Mrs. Stevens's father, Dr. Robert Gesell made a statement at the American Physiological Society business meeting on April 15, 1952 (Cohen and Loew, 1984, p. 9), of which he was a longtime member, criticizing the National Society for Medical Research's (NSMR) opposition to proposed anti-pound seizure laws, and accusing that organization of being concerned only with securing research animals.

> The NSMR has had but one idea since its reorganization, namely to provide an inexhaustible number of animals to an ever growing crowd of career scientists with but little biological background and scant interest in the future of man.
>
> (quoted in Cohen and Loew, 1984)

Gesell also criticized the way animals were being treated in research "in the name of science." One of Gesell's main complaints was that the NSMR labeled "antivivisectionist" anyone seeking reforms in how animals were housed and used in research or that wanted reform in the way dogs were procured from pounds and subsequently used in research. Shortly after Gesell's statement, The Animal Welfare Institute published a letter addressed to Mrs. Stevens from C. W. Hume, dated 26th of June 1952, comparing the more humane attitude of British scientists toward their research animals with that of US scientists and characterizing the work of UFAW as taking a "rational stand between two groups of hysterical belligerents" (antivivisectionists and vivisectionists) mainly over the issue of procurement of dogs. (*AWI Information Report* (*AWIIR*), 1(4)2–4) Gesell's request that his criticism of NSMR be made part of the APS business meeting minutes was debated and a compromise statement was adopted:

> that Dr. Gesell had made a statement concerning animal experimentation which criticized physiologists and the NSMR and that the statement had been challenged.
>
> (quoted in Cohen and Loew, 1984, p. 10)

At a second business meeting, on April 17, 1952, APS adopted the following formal response:

> The American Physiological Society reaffirms its sincere belief that the moral justification for humane animal experimentation, for the purpose of furthering biological and medical knowledge, in the interest of both human and animal welfare, is completely established.
>
> The American Physiological Society rejects the sweeping allegations made by Dr. Gesell in a recent business meeting.
>
> The American Physiological Society rejects unequivocally the inference that its members are insensitive to the moral responsibilities which they have in protecting the welfare of man and animals.
>
> The American Physiological Society expresses the hope that in the future all of its members will act in unison in promoting conditions facilitating humane animal experimentation."
>
> (quoted in Cohen and Loew, 1984, p. 10)

The American Physiologist Society was founded in 1887. In 1913, a resolution proposed by A. J. Carlson included statements defending the use of animals in research but opposing "cruelty to animals." "We heartily support all humane efforts to prevent the wanton infliction of pain" (Quoted in Cecil and Samuels, p. 391). In 1953, the APS Council adopted a set of guiding principles regarding the use of animals. The original principles were proposed by Walter B. Cannon in 1909 and adopted and enforced in laboratories of medical schools (Benison, 1970, cited by Cecil and Samuels, p. 392). The adoption of these principles by APS was proposed by their Committee on the Care and Use of Animals. In addition to requiring adherence to the guiding principles, the Society also required that articles based on experiments violating the *Guiding Principles* not be acceptable for publication in the Society's journals.[3] Since 1981, the Program Advisory Committee reviews abstracts of papers to be presented at meetings and these abstracts must include an adherence of the principles statement. (FASEB reaffirmed these principles in 1980.) The Committee of the Use and Care of Animals was abolished in 1967 and replaced with the Public Affairs Committee, but was re-established in 1971 as the Committee on Animal Care and Experimentation to "integrate legislation on animal care with the guidelines for publications and also advise the Society on the ethics of animal experimentation and care (Cecil and Samuels, p. 394).

The NSMR was founded in 1946 by the Association of American Medical Colleges (AAMC) to counter antivivisectionists' criticism of medical research. It contributed to campaigns to allow the use of pound animals in research and counter attempts to regulate medical research (Cohen and Loew, p. 9).

The NSMR issued a protest over a booth that AWI planned for the fall, 1955 meeting of the American Institute of Biological Science that resulted in the cancellation of the exhibit contract. The ensuing controversy resulted in the publication in the June 1956 issue of *Bulletin of the American Institute of Biological Sciences* of letters from the NSMR and AWI (the letters, with a reply to NSMR's letter from AWI were published in *AWRII* 5(3): 1–4).

The Animal Welfare Institute started a survey of housing conditions for laboratory animals by visiting various facilities and recording undesirable conditions as well as looking for information about model facilities. Based on this survey, an exhibit was made at the 1951 American Association for the Advancement of Science meetings (*AWIIR*) 1(2): 2–3), and a subsequent exhibit the following year. Among the recommendations of the second exhibit were that animal technicians be used who liked animals and had good training, and that "Intelligent, thoughtful planning of housing, including a practical study of the natural habitats of the animals being used. The size of the enclosure should take into consideration the size of the animal involved and the duration of confinement." Under "Mental Well-being," the complaint was that many animals suffer severely "from fear, loneliness and anxiety.

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[3] The APS also opposed proposed animal welfare legislation, since it would interfere in the scientist's use in the lab. See the President message in *The Physiologist* 1959 (20, 4, p. 58; p. 4 of 1960 (3), 1; and p. 8 of 1961 (4), 2 for a resolution opposing H. R. 1937 and 3556.

Studies in psychosomatic medicine indicate the importance of mental stress." To combat this, the recommendation is "Kind treatment of all animals, adequate space and companionship, and a special effort to keep contented the animals being used for a long period of time." Under the heading "Physical comfort," the provision of simple comforts was recommended (*AWIIR* 2(1): 3–4).

Subsequently, AWI published *Basic Care of Experimental Animals* and *Comfortable Quarters for Laboratory Animals*. In the first edition of *Comfortable Quarters* (1955), it is stated that the problem to be overcome in respect to current housing in many facilities is overcrowding, lack of room for exercise, and lack of a comfortable resting place. Among suggestions for improvement are the elimination of dog cages, replaced by housing in a common room. The main text consists of descriptions and plans of (apparently) more acceptable housing methods of some facilities. In a later edition (7th, 1979), the purpose of the manual and the ideal that AWI supports is "to provide an environment sufficiently natural that the animals can be maintained as normal individuals upon which reliable observations can be made." At the end, there is a two page policy statement (pp. 107–108) that says that animals should be used for experimentation only (1) when there is no known feasible alternative; (2) after review of carefully designed experiment based on knowledge of existing literature on the subject; (3) using the smallest possible number of animals; (4) of the most suitable species; (5) maintained in an optimum environment; (6) under the care of trained sympathetic personnel; (7) preventing pain, fear, and anxiety by judicious experimental design and generous use of anesthetic, analgesic and tranquilizing drugs; (8) endangered species should not be used; (9) threatened species should only be used for experiments conforming with requirements for human experimentation. In fact, animals bred for the purpose of experiment should be used. There is a stress on the use of housing that allows for activities *natural* to the species. It is also stated that "experimental animals, sacrificed for human benefit, should be provided optimum living conditions before, during, and after their use. This is a minimum repayment for their services – the only one which can be made."

The 8th edition of *Comfortable Quarters* (1997) is a collection of papers rather than a list of institutional plans. On pp. 8–9 of the introduction, it is emphasized that there is a need for comfortable quarters for "sound scientific methodology." Throughout the AWI publications, the influence of UFAW remains evident. The current web site lists eight pages of texts available from AWI. These include two pages on experimental animals. They include the following:

Comfortable Quarters for Laboratory Animals Completely revised edition, edited by Dr. Viktor Reinhardt, with text and illustrations provided by experts in the housing and care of each individual species, AWI, 1997, 120 pages; "Social Housing of Previously Single-Caged Macaques: What Are the Options and the Risks?" by Dr. Viktor Reinhardt, Cathy Liss and Christine Stevens. Reprinted from the journal *Animal Welfare*, UFAW, 1995, 20 pages, illustrated; "Effective Feeding Enrichment for Non-Human Primates: A Brief Review," by Dr. Viktor Reinhardt and Adam Roberts. Reprinted from the journal *Animal Welfare*, UFAW, 1997, 8 pages; "Use of Laboratory Animals in Research," dissent by committee member Christine Stevens to the Report of the National Research Council Committee on the Use of Laboratory Animals in Biomedical and Behavioral Research, 1988, 2 pages; *The Principles of Humane Experimental Technique* by W. M. S. Russell and R. L. Burch. A reprint of this classic book, UFAW, 1992, 238 pages; Excerpts from *Housing, Care and Psychological Well-being of Captive and Laboratory Primates*, edited by Evalyn F. Segal, Noyes Publications. Contains quotations from 50 leading primatologists and other scientists, 1989, 3 pages; "Humane Consideration for Animal Models," by Christine Stevens. Reprint of article from *Animal Models of Thrombosis and Hemorrhagic Diseases*, National Academy of Sciences, 1976, 8 pages; "Improved Standards for Laboratory Animals." Text of the 1985 amendments to the Animal Welfare Act from *The Congressional Record*, Vol. 131, No. 175; "Mistreatment of Laboratory Animals Endangers Biomedical Research." Commentary by Christine Stevens, *Nature*, September 27, 1984; "Protect Our Pets How to stop pets from being taken by unscrupulous animal dealers and sold to laboratories," Society for Animal Protective Legislation, 4 pages; "Concentration Camps for Dogs," reprinted from *Life* magazine, 1966, 8 pages; "Humane Perspectives," by Christine Stevens. Reprint of article from *The Future of Animals, Cells, Models, and Systems in Research, Development, Education, and Testing*, National Academy of Sciences, 1977; *A Bibliography for Members of Institutional Animal Care and Use Committees Annotated*; Includes publications on alternatives to animals, laws and regulations, training courses, and the psychological well-being of primates, AWI; *Physical and Mental Suffering of Experimental Animals: A Review of Scientific Literature from 1975–1978* by Jeff Diner with a foreword by Samuel Peacock, M.D. AWI, 1979, 195 pages. *Beyond the Laboratory Door* continues the above review, 1978–1984, and includes two new sections: "Unjustifiable by Any Standard" (citing USDA reports of laboratory inspections) and "Photographs of Experimental Animals," AWI, 1985, 266 pages.

AALAS and AAALAC

In 1967, the name of the ACP was changed to the American Association of Laboratory Animal Science (AALAS) and the *ACP Bulletin* became the *AALAS Bulletin.*

The name of the journal *Laboratory Animal Care* was changed to *Laboratory Animal Science* in 1971.

The *AALAS Bulletin* was expanded to a journal in 1991 and changed to *Contemporary Topics in Laboratory Science* in 1992.

According to Mulder, "The objective of AALAS is to remain the primary leader in the area of animal care and use." Its members include "researchers, veterinarians, other medical professionals – as well as countless animal care experts who encompass animal care managers, animal health care personnel, research technicians, and animal care specialists" (p. 14 in M&M).

As stated above, in 1960, ACP formed a Professional Standards Committee to develop professional standards for laboratory animal care and facilities. The name was changed to Animal Facilities Certification Committee and in 1963 to Animal Facilities Accreditation Board. In 1965 this board became a nonprofit and its name was changed to American Association for Accreditation of Laboratory Animal Care. [For the history see Clark (1991). All references are to Clark.] In 1958, an ad hoc Committee for the Consideration of Animal Regulatory Activities of the Animal Care Panel in their report recommended that the ACP "undertake regulatory and accreditation functions for laboratory animals. It was felt that this would be advantageous for the ACP and to the laboratory animal industry." And it was also agreed that accreditation "ultimately be based upon complete freedom of diseases and parasites in the animals, as well as facilities, equipment and procedures which would give assurance of high probability that such animals would continue to be available" (pp. 5–6).

Because in 1959 HSUS charged several research labs with cruelty to animals, the ACP Executive Committee decided that it would be useful "to the scientific community to have a committee which could evaluate allegations of inadequate care and provide an objective professional opinion if invited to do so by the accused institution" (p. 6). So in 1959, the Executive Committee authorized the appointment of a Committee on Ethical Considerations in the Care of Laboratory Animals, and the appointed committee was charged with determining and recommending "the extent to which medical researchers have an ethical right to cause suffering in animals in order to alleviate suffering in humans" (p. 6). The committee chairmen, Dr. Gay, thought the charges too vague and "that it could not evaluate animal care programs objectively without appropriate criteria on which to base its evaluations, i.e., standards were needed" (p. 6). As a result, the committee's name was changed to Professional Standards Committee and "its principal function should be to develop appropriate professional standards of laboratory animal care" (p. 6).

In September 1960, the Professional Standards Committee in its report stated, "There was an apparent need to assure the general public that laboratory animals research was operated on a professional level and that standard procedures were used in most institutions throughout the country" (p. 6). A month later, ACP president Dr. Cohen in his presidential address said, "… I suggest that members of the Animal Care Panel and biological scientists generally must reinforce the concept and procedures of self regulation. The laboratory certification program which has been proposed is one aspect of self regulation" (Cohen, 1960 as quoted by Clark, p. 7). After the October meeting, the Professional Standards Committee was renamed the Animals Facilities Certification Committee, and in April of 1961 this renamed committee made the following proposal:

> The Animal Facilities Certification Program of the Animal Care Panel is intended to assist institutions in achieving and maintaining the highest possible standards for the care of laboratory animals.
>
> The requirements for certification are not complex. It is required that competent, qualified personnel be responsible for the care of the laboratory species. It is required also that the animals receive every consideration for their surroundings maintained in a sanitary

> condition. The determination of the adequacy of animal care shall be made by professionally qualified persons competent in such matters. They shall be animal colony directors themselves or have equivalent training and experience which qualifies them to make competent professional judgments. These judgments shall be made by a site visit only. Two members of a 21-member Animal Facilities Certification Committee of the Animal Care Panel shall visit the applicant institution and shall evaluate laboratory animal care objectively and subjectively….
>
> (quoted on p. 7)

In 1961, ACP began negotiating with NIH for a grant to develop standards, and in 1962 the Division of Research Grants of NIH contracted with ACP "to determine and establish professional standards for laboratory animal care and facilities" (Flynn, 1962 as cited by Clark, p. 8). This resulted in the publication of the *Guide for Laboratory Animal Facilities and Care* in March 1963 by the US Public Health Service. Later editions of the *Guide* were prepared by the Institute of Laboratory Animal Resources (ILAR) under contracts administered by the Animal Resources Branch, Division of Research Resources, NIH (p. 8). In 1964, ACP set out to test the *Guide's* suitability for evaluating animal care programs and concluded that

> a) The *Guide* proved extremely useful to site visitors and institutional officials as a frame of reference. The principles and criteria in the *Guide* are sound and can be used for evaluating animal care programs
>
> b) The [Accreditation] Board [of ACP] does not believe that mandatory minimum standards should be derived from the *Guide*. Instead, dependence should be placed on the application of the principles and criteria by experienced, professionally competent site visitors, and acceptance of these principles and criteria by the institutions.
>
> c) Additions to the *Guide* are needed in the area of care of farm animals when used in research, euthanasia, and features of architecture and engineering.
>
> (Clark, p. 13)

The purpose of accreditation, according to the 1964 report of the Accreditation Board was to "define the conditions of animal care which promote sound and proper animal experimentation" (Clark, p. 16). And although "the word 'accreditation' implied regulation; but the regulatory implications of this program were very different from those in most pending federal regulation. The program is based on the principle of evaluation of peers" (Cohen, 1964 as cited by Clark, p. 16). Initially, AAALAC assessments focused on "animal care," as opposed to their use in studies, and it was not until 1983 that animal use was included in the assessments (Clark, p. 38). However, as early as 1966, Dr. Cohen recommended that the assessments include use as well as care (Clark, p. 38). In the December 29, 1967 issue of *Science*, Dr. Cohen reported that the major deficiencies found by AAALAC inspectors was over-crowding of animals, poor sanitation, inadequate quarantine and disease control programs, and incomplete surgical care (Clark, p. 40). The value of accreditation was emphasized to directors of laboratory animal facilities in a letter in 1967 by Chairman of the Board Leslie R. Burrows. One goal was to provide optimal animal care and "to provide a mechanism of self regulation by the scientific community. It is essential that laboratory animals are maintained under the best possible conditions, and that the vital freedom of the scientist is preserved in his research efforts to improve the health and welfare of animals and man." In addition, the AAALAC program "…will undoubtedly have a major influence in any future congressional consideration of the need for legislative regulation of animal research." (Clark, p. 40) The link between animal welfare and good research was reaffirmed in a 1972 AAALAC *Activities Report*.

> Concern for the care and use of laboratory animals goes well beyond that of meeting requirements of federal law or the policies of granting agencies. What is really at stake is the quality of research that can be conducted; for without the use of well defined animals, maintained in proper environmental surroundings, animal research cannot meet the demands of modern science.
>
> (quoted by Clark, p. 42)

The themes of the links between good animal health, animal welfare, and good science, and the importance of self regulation and the freedom of the scientists, and the role of AAALAC in improving animal welfare are repeated in later reports (see for example, Steven Pakes's 1975 Activities Report quoted by Clark, pp. 43–44; the December 1982 resolution of the Board of Trustees quoted by Clark, p. 4, Clark's own 1986 and 1987 *Activities Report* quoted in Clark, pp. 48–49). (See also the AAALAC Bylaws: Article I Purpose. "The purpose of the American Association…is to promote a program…which will encourage, promote and facilitate scientific research which includes the use of experimental animals." Article IX Accreditation Program, c. "Physical facilities and the methods of care for animals should permit their maintenance in a state of well-being and comfort.")

While AAALAC uses the edition of the *Guide* current at the time of evaluation as its primary standard for evaluating animal care facilities, the *Guide* was not very ambitious in elaborating its standards.

The Guide of Laboratory Animal Facilities and Care

The first edition of the *Guide* was prepared by the Animal Facilities Standards Committee of the Animal Care Panel and published in 1963 by the US Department of Health, Education, and Welfare and adopted by ILAR. It is a 33 page document (compared with the 1,000 page 1957 edition of the UFAS Handbook, which it lists in the bibliography). The *Guide* is divided into three major sections: one on personnel; one on the physical plant, and one on animal housing and care (19 pages). In the Introduction, the *Guide* is said to be "symbolic of the scientific community's ethical commitment to provide the best possible care for animals used in the service of man and animals" (p. 1). The recommendations of the *Guide* are based on three principles. The first two concern the qualifications of the personnel involved. The third principle is "Physical facilities and the methods of care for animals should permit their maintenance in a state of well-being and comfort." However, a *caveat* is issued that the *Guide* is not intended to "limit the investigator's freedom and obligation to plan and conduct animal experimentation in accordance with accepted practice."

The Personnel section (2 pages) emphasizes that animal care should be directed only by *professionally* qualified person, with at least three years of training "in laboratory animal medicine or a related field" (p. 2).

The housing and care section begins by defining comfortable housing, which is "another essential element in good animal care" (p. 17). Comfortable housing "is defined as a system of management, care and housing which permits animals to grow, mature, reproduce and behave in the laboratory, and to be maintained in good health." Here follows a list of the criteria for comfortable housing, including the note that the system should meet the investigator's research requirements. "Physical comfort" includes keeping the animal dry and clean and in state of thermal neutrality, providing sufficient space for freedom of movement, access to food and water, and housed in compatible groups without over-crowding if group housed (p. 17). The system should also be designed to keep the animal in good health and facilitate ease of cleaning and the avoidance of injury to the animal (p. 18). An entire page is devoted to the topic of exercise, some of which is aimed at disputing animal welfare groups who want larger cages to enable exercise and an exercise requirement in federal regulations. Exercise, however, is defined as "any physical activity calculated to restore, maintain, or improve vigor and health." Whether animals receive adequate exercise and what form this should take should be left to *professional judgment*[4] (p. 18). The size of a cage or run should also be left to *professional and scientific judgment* as well (p. 19).

The third edition of the *Guide* was substantially revised by ILAR and published in 1968. It has 57 pages, including seven appendices, including an account of the 1967 USDA regulations that were authorized by the Federal 1966 Animal Welfare Act. The main text is still divided into the same three sections of the first edition, but the order has changed, with the section on housing and care coming first, but only occupying 12 pages, and the physical plant section 17 pages. The introduction starts out by noting,

> The scientific community has long recognized a scientific and ethical responsibility to provide humane care for experimental animals used in the service of man and animals. This commitment to high standards is expressed in the codes guiding animal experimentation and care adopted by numerous scientific societies and institutions and in recently adopted federal, state, and local legislation. The *Guide* extends these codes by defining humane care in professional terms and describing the facilities that provide humane care.
>
> (p. 1)[5]

At the same time, it is noted below this paragraph that the *Guide* is not "intended to limit the investigator's freedom and obligation to plan and conduct animal experiments in accordance with accepted scientific practice" (p. 1).

The first section (on housing and care) explains that it is impossible to develop a single definition of comfortable housing that is applicable to all institutions, and then proceeds to define comfortable housing in much the same way as it did in the first edition. It adds to the criteria for comfortable housing space to allow for normal postural adjustments and avoiding unnecessary physical restraint (p. 4) and measures good health in terms of maintaining normal body weight and the prevention of the spread of communicable diseases. There is still the same, somewhat smaller, section on exercise. Now it is stated that the precise relationship between energy expenditure during physical activity and well-being is unknown, but it defines exercise as any physical activity, and leaves it to the judgment of professionals what amount or form is needed (p. 4). (The 1967 edition of the UFAW handbook is listed in the references, as well as Russell and Burch.)

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[4] This sounds like an appeal to *performance standards*, rather than *engineering standards*, a recurring theme.

[5] Note that "humane care" suggests a caretaking model. It implies that there could still be care even though not humane.

The 4th edition, revised and published in 1972, has a new title, *Guide for the Care and Use of Laboratory Animals*, implying that guidance is being extended from housing to animal use in studies. The revision was undertaken by an ILAR committee, and the document published by the National Research Council of the National Academy of Science. The principal purpose of the *Guide*, it states in the Preface, is "to assist scientific institutions in providing professionally appropriate care for laboratory animals. The recommendations are based on scientific principles, expert opinion, and experience with methods and practices that have proved to be consistent with high quality animal care." Although the contents have been reorganized and some new material added, the same themes of the coupling of humane treatment and good science and the need for professional judgment and expert opinion to decide what is in the interests of the animal remain, and this "scientizing" of animal welfare is repeated throughout.

The introduction to the 4th edition begins with the claim that the "scientific community has long recognized an ethical responsibility to provide humane care for experimental animals" and goes on to state that this *Guide* reflects "this concerns for the welfare of animal used in research …" and its standards constitute "a definition of humane animal care in professional terms," since the standards are a "synthesis of knowledgeable experience and opinion based on scientific principles and concepts." While this edition of the *Guide* has been shortened by a page, it now has five major sections and five short appendices. The last of the appendices gives a brief account of the 1970 amendment to the Animal Welfare Act and mentions where the new regulations can be found.

The first section is on animal management[6] and begins with a subsection on housing and care. The second section is devoted to "animal quality and health, the third section to personnel, and a new section has been added on the "Use of laboratory animals." The last section, which is the largest (15 pages), makes recommendation for the physical plant and includes a subsection of space recommendation for the caging of various species.

The first section starts off with the statement that proper management depends on many "subjective and objective factors" that interact differently in different institutions, and then defines proper management as "any system of housing and care that permits animals to grow, mature, reproduce, or behave normally" (p. 3). Section A (Housing and care) states criteria for evaluating a caging or housing system because "the well-being of the animals and the control of experiments are influenced by the housing system…" The primary criterion is the animal's physical comfort, and the factors contributing to comfort are the same as those listed in the previous edition of the *Guide* – dry and clean, thermal neutrality, freedom of movement and postural adjustment, no unnecessary restraints, access to clean food and water, and no overcrowding. The second criterion is allowing for maintaining the animal in good health (maintaining normal body weight and prevention of diseases).

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[6] "Management" suggests the caretaking model.

The second subsection is on physical activity, confinement, and restraint. The expression "physical activity" has now been substituted for "exercise," and the subsection starts with mentioning that "One of the most widely debated questions in the field of animal care concerns the need for 'exercise' or physical activity …" (p. 4) because confinement in a cage "has been equated by some with lack of exercise and physical or psychological discomfort, while release from confinement has been equated with exercise and physical or *psychological well-being* [italics mine]." The *Guide* then goes on to state that confinement *per se* does "not necessarily influence the amount of exercise an animal engages in, and it does not necessarily affect an animal's well-being." "Exercise" is then defined as "any physical activity" and how much and what form a specific animal needs are "matters for professional judgment" (pp. 4–5).

Following the physical activity subsection is one on confinement and restraint. It cautions against the overuse of restraints or confinement in chairs, especially for primates.

Section II (Laboratory Animal Quality and Health) begins with "Concern for the quality and health of laboratory animals is both a humane and a scientific requirement" and claims that the recommended procedures that follow are based "upon current knowledge. Some are based on experimentally-deduced information; the remainder are based on expert opinion" (p. 11).

Space recommendations are given in the last subsection of Section V (pp. 11 ff.), with the *caveats* that sizes of cages, number of animals housed in a cage, etc. "are matters of professional judgment," that detailed housing standards for various species can be found in ILAR publications, and that the "specifications applying to the housing of certain species of animals are stated in the regulations, promulgated under Animal Welfare Act 1970."[7]

The 1978 revised edition of the *Guide* has been expanded to 70 pages, but reduced to four sections (one on Laboratory animal management, one on laboratory animal quality and health, one on institutional polices, and one on the physical plant) and five appendices. The preface makes the usual deference to scientific principles and expert opinion in making recommendations "to assist scientific institutions in using and caring for laboratory animals in ways judged to be professionally appropriate." The selected bibliography appendix has been expanded from seven pages in the previous edition to 15 pages in the current edition, reflecting in part the increase in the number of National Academy of Science publications related to laboratory animals (the 1972 bibliography lists 8 NAS publications, while the 1978 edition lists 43 NAS publications, most of which list NAS as the author).

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[7] The bibliography lists the 1971 The UFAW Handbook on the Care and Management of Farm Animals and the 4th edition (listed as in press) of The UFAW Handbook on the Care and Management of Laboratory Animals, and the 1966 Animal Welfare Institute's Comfortable Quarters for Laboratory Animals.

The two paragraph introduction begins with the usual statement about the scientific community's long recognition of "a scientific and ethical responsibility to provide appropriately for the welfare of animals used for research …," while the second paragraph disclaims any intention to "limit an investigator's freedom – indeed obligation – to plan and conduct animal experiments in accord with accepted scientific practices…" The introduction to the first section (Laboratory Animal Management) defines "proper management" in the same way as the previous edition with the exception that the need for "environmental and genetic control to minimize variations that may modify an animal's response to a particular experimental regiment." (Two-thirds of a page on environmental factors has been added to this section.) The introductory paragraph ends with this statement echoing the long held sentiment that good science and good welfare go hand-in-hand: "Proper management of laboratory is essential to the welfare of the animals, to the validity of the research data, and to the health and safety of the animal-care staff" (p. 3). Under the section on the criteria for evaluating housing, the expression "comfortable temperature" has replaced "thermal neutrality" in the factors affecting physical comfort.

The second subsection under housing is once again called Exercise (in the previous edition exercise" was replaced with "physical activity") and exercise is defined as "any physical activity." This section starts off with the same claim that the need for exercise is widely debated because some claim that confinement in cages is to be equated "with physical or psychological discomfort" and regular release from cages with exercise is to be equated with "physical or psychological well-being." However, the *Guide* says, this is not necessarily true and it should be left up to professional judgment about what forms of exercise are needed for particular animals.

The 1985 edition has been revised and expanded to 82 pages. There are now five chapters and four appendices. The Institutional Policies chapter is now the first chapter instead of the third and the Laboratory Animal Management chapter has been renamed Laboratory Animal Husbandry. The Laboratory Animal Quality and Health has been renamed Veterinary Care, and a new chapter on Special Consideration has been added. The Introduction has been expanded from the previous edition, but it still contains the sentence, though somewhat modified, "The scientific community has long recognized both a scientific and an ethical responsibility for the humane care of animals, and all who care for or use animals in research … must assume responsibility for their general welfare." The same *caveats* about not limiting the researcher's freedom and the need to use professional judgment are also present. Here and in the beginning of the husbandry chapter, the expression "animal welfare" is used (as opposed to "animal well-being").

In the husbandry chapter, "having a resting space appropriate for the species" has been added to the adequate space criteria in the housing section as well as "meeting the biological needs of the animals" (p. 12). In the same chapter, there is a new section on social environment that recommends group housing for animals that are "naturally communal," and recommends that consideration be "given to enriching the environment as appropriate to the species, especially when animals will be held for long periods. The minimum space recommendations have been moved to this chapter. The exercise section has been renamed "Activity," and admits that "there are no unequivocal data relating to the quality or quantity of an animal's activity to its physical or *psychological well-being* [italics mine]" (p. 17). Exercise is then defined as "supplemental or induced activity" and its need is to be determined by "professional judgment based on an understanding of the species" etc. The fifteen page bibliography is supplemented by a list of references at the end of each chapter.

The 1985 edition of the *Guide* also contains a new appendix entitled, "Public Health Service Policy and Government Principles Regarding The Care and Use of Animals," in which nine Principles for the Utilization and Care of Vertebrate Animals Used in Testing, Research, and Training" are given.

There is also a 1998 edition.

What follows is a brief account of several organizations devoted to self-regulation of animal users in science. The descriptions are taken from M&M.

ACLAM

For a history of ACLAM (The American College of Veterinary Medicine), see Chapter 4 of M&M. According to Middleton,

> ACLAM was founded in 1957 to encourage education, training, and research in laboratory animal medicine; establish standards of training and experience for veterinarians professionally concerned with the care and health of laboratory animals; and recognize qualified persons in laboratory animal medicine by certification and examination.

Originally called American Board of Laboratory Animal Medicine, it changed its name to ACLAM in 1961. ACLAM is "an organization of board certified veterinary medical specialists who are experts in the humane, proper, and safe care and use of laboratory animals."

It published *Biology of the laboratory rabbit* in 1974.

See the Web site *www.aclam.org*

"The requirement for adequate veterinary care of laboratory animals was codified in the regulations of the federal Animal Welfare Act and the Public Health Service Policy on the Humane Care and Use of Laboratory Animals," says Middlerton.[8]

ILAR

In Chapter 7 of M&M, The History of the Institute of Laboratory Animal Resources, 1953–1999, Wolfe gives a history of the Institute of Laboratory Animal Resources.

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[8] M&M, p. 33. See two unpublished reports in 1986 and 1996, p. 34. See 1986 ACLAM. See also Cohen and Loew in Clarke.

"…it is unmistakable that ILAR's forefathers' ability to plan wisely for the future and their benevolence toward laboratory animals continues to be present as ILAR's legacy," Wolfle says (p. 44). A list of the "giants of laboratory animal science" is then given.

IlAR published the *ILAR News* and the *ILAR Journal*, and its publications include reports that are supplements to the G*uide* and *Principles of Animal Care*.

Upon the passage of the 1966 Animal Welfare Act, ILAR was commissioned by the USDA to prepare *Recommended Minimum Standards for the Human Handling, Care, Treatment, and Transportation of the Animals Prescribed Under the Act* (p. 47).

The goal is to "apply professional judgment in the interpretation of these recommendations" of the *Guide*.

> The_*Guide* provided end-points or goals, but not details for achieving the goal. Although *performance* language had not yet evolved, it is clear from the beginning that the authoring committees felt that prescribing exact methods by which to achieve the goals of laboratory animal care and use, as known then, was counterproductive. Most important, from a humane standpoint, is that performance standards require that the judgment be made *from the animals' perspective*, rather than from conditions of or descriptions of the facility as was the common practice of engineering or prescriptive standards.
>
> (pp. 47–48)

Publications in the 1970s include *Care and Management of Rodents; Care and Use of the Nude Mouse; Care and Use of Hypertensive Rats; Guide for the care and use of lab animals; Laboratory Animal Housing; Standards for birds; Standards for cats* (p. 50).

ILAR broadens to include scientists as opposed to merely veterinarians. Organizations like SCAW, PRIM&R and others sought reports from ILAR on other topics (p. 50).

NIH

The following brief account is taken from M&M, Chapter 10. The History of NIH Intramural Programs in Lab animal Science.

The pre-NIH institution was The Hygenic Laboratory in Washington, DC, which was founded in 1904 and later became NIH. NIH moved to Bethesda in 1937, partly to avoid threatened DC legislation outlawing the use of animal in research (p. 63).

In the 1950s the NIH Central Animal Facility was established. According to the authors of Chapter 11 (William Ingalls Gay and Robert A. Whitney, both DVMs), "It is interesting that such a modern facility with modern housing and husbandry practices could have been developed to such an elegant level without the benefit of animal welfare regs" (p. 64).

It was particularly interesting to animal protectionists because it kept the dogs and cats in large runways and had the appearance of a typical veterinarian clinical animal hospital. At that time, the animal protectionist community and the research community frequently communicated in friendly and constructive terms. Protectionists often visited the NIH facilities (p. 64).

The following are highlights of some of the accomplishments of the Veterinary Resources [research] Program staff:

[7] Development of new techniques for the socialization and psychological well-being of various animal species … this effort was very important to their well-being and to meeting the requirement of federal laws regarding their welfare.

[8] Assured high quality, humane care for all animals in the NIH research programs. This work greatly aided researchers in complying with the proliferation of federal laws passed in the interest of animal welfare.

[9] Served as a focal point or the development of US governmental interagency activities in relation to animal use and care. These activities were extremely helpful in developing guidelines/regulations for implementing federal animal welfare legislation in a practical and workable manner (pp. 64–65).

In Chapter 11 of M&M (Development and Major Contributions of the Extramural Comparative Medicine Area, NIH 1962–1999), an account is given of The Animal Resources Branch (ARB) of the Division of Research Facilities and Resources (DRFR), NIH, which was formally established in July 1962 to provide resources, etc., for extramural research.

In 1963 Dre. William Gay initiated the development of the Laboratory Animal Sciences Program (LASP) (p. 68).[9]

LASP (NIH)

The Laboratory Animal Sciences Program was established in the 1960s. It established diagnostic labs to detect and characterize incurrent diseases in colonies that may compromise research results and animal welfare. The laboratory animal facility improvement program continued as part of LASP until 1995 when it was transferred to the newly organized Research Infrastructure Area of NCRR. Grants in aid from the facility improvement program have assisted numerous institutions in their efforts to upgrade their laboratory animal care program to comply with federal regulations and gain accreditation status (p. 70).

Types of activities supported by LASP:

Support for the core functions and many special projects conducted by ILAR. These include periodic revisions since 1965 of the *Guide*. … a report on psychological well-being of nonhuman primates, etc. “Its programs…have greatly improved the health status and overall welfare of lab. Animals, etc.” (p. 72).[10]

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[9] See also OLAW Institutional Animal Care and Use Committee Guidebook and US Department of Health and Human Services. PHS. NIH. Institutional Administrator’s Manual for Laboratory Animal Care and Use, 1991.

[10] The authors cite C. W. McPherson (1980), “The origin of laboratory animal science at NIH,” *Lab Anim. Sci*. 30: 786–789.

Challenges and Alternative Conceptions

SCAW

The Scientists Center For Animal Welfare was established in 1978 as a nonprofit organization based in Washington, DC "in response to a 1977 article written by Jeremy Stone, Director of the Federation of American Scientists" calling for the "formation of an organization of scientists which would 'adopt a balanced and undefensive attitude' regarding animal welfare. This would add luster to the scientific community, he said" (Dodds and Orlans, 1982, xi).

> A major objective of the Scientists Center is to help sensitize scientists to the issues involved in humane treatment of animals.
>
> The functions of the Center are to foster the humane stewardship of animals by educating scientists and the public about animal welfare; to promote intelligent and humane decisions in establishing public policy; to collect and exchange scientific information relevant to animal welfare; and to encourage universities and professional schools to offer courses on the ethical aspects of our interrelationships with animals and on the technical skills involved in handling animals.
>
> (ibid. vi–xii)

An earlier work by Orlans (*Animal Care from Protozoa to Small Mammals*, 1977) focused on the humane care of animals used by students in biology courses. In the acknowledgments, Orlans claims that she was influenced by C. Stevens of the AWI, John Hoydt, President. of HSUS, and Harry Rowse, Executive Director of the Canadian Council on Animal Care, and lists the Guiding Principles for the Use of Animals in pre-university education of both the HSUS and the CCAC on pp. 4–9. One of her theses in this book is that scientific inquiry and respect for life go hand in hand (p. 1). In the chapters on Gerbils, rats, hamsters, and guinea pigs, there are recommendations for housing, following the principle that housing should mimic the natural habitat (pp. 244, 261, 276, and 291).

In 1984–85, SCAW held workshops at The Johns Hopkins University (May 1984), Michigan State University, October 1984), University of Southern California (November 1984) University of Colorado-Aspen Institute (May 1985), and University of Toronto (October 1985) on the effective use of animal care and use committees, and selected papers from these workshops were published as a special issue of *Laboratory Animal Science* in January 1987. The issue was guest edited by Barbara Orlans. The principal purposes of the Center are stated on p. 3 of this issue. They are

> …to aid investigators, laboratory personnel, and research facility administrators in the development of sound policies to govern the humaneness of animal experiments and to ensure compliance with current national policies.

In the same statement, it is said that the center

> …recognizes the need for biomedical experimentation on animals and is dedicated to the principle that a humane concern for animals should be incorporated into the conduct of science.

The activities of the center

> …include organizing conferences, publishing a quarterly Newsletter, acting as a resource to scientists and members of Animal Care and Use Committees on a broad range of topics relevant to the welfare of laboratory animals, and providing assistance with training programs for investigators and laboratory personnel to aid compliance with national policies.

The special issue is divided into seven sections, with brief papers on Current Policies in Animal Care and Use Committees in the USA and Canada; Objectives and Procedures of Animal Care and Use Committees; Protocol Review and Animal Pain; Roles of Committee Members; Other Perspectives; Training of Laboratory Staff; and Conclusions. Of the 51 contributors, 24 are Veterinarians, 3 are professional bioethicists, 3 are representatives of pro-animal organizations, and most of the remaining are science administrators or animal resource administrators. [For a summary of the papers, see SCAW 1987 conference publication, Orlans et al. (1988).]

HSUS

The Humane Society of the United States advocates the eventual elimination of the use of animals in research that is harmful to them, including their death.

> As do most scientists, The HSUS advocates an end to the use of animals in research and testing that is harmful to the animals. Accordingly, we strive to decrease and eventually eliminate harm to animals used for these purposes. Our concern encompasses all aspects of laboratory animal use, including their housing and care.
>
> (See http://www.hsus.org/animals_in_research/)

They advocate research on how to replace them and they also propose the complete elimination of the use of primates and the use of live animal in education.

> We carry out our work on behalf of animals used and kept in laboratories primarily by promoting research methods that have the potential to replace or reduce animal use or refine animal use so that the animals experience less suffering or physical harm. (Replacement, reduction, and refinement are known as the Three Rs or alternative methods.) The Three Rs approach, rigorously applied, will benefit both animal welfare and biomedical progress.
>
> Certain species, such as chimpanzees and other apes, cannot be kept humanely in laboratory caging and should not be used in harmful research given their highly evolved mental, emotional, and social features and their concomitant vulnerability to suffering from living in captivity in research settings. Consequently, we place high priority on these species being phased out of harmful research and being relocated to appropriate sanctuary facilities.

PRM&R

Public Responsibility in Medicine and Research is primarily an educational organization seeking to “advance the highest ethical standards in the conduct of research”. The following statements are from their web site (*see* http://www.primr.org/)

> Public Responsibility in Medicine and Research (PRIM&R) is dedicated to creating, implementing, and advancing the highest ethical standards in the conduct of research.
>
> Since 1974, PRIM&R has served the full array of individuals and organizations involved in biomedical and social science/behavioral/educational research. PRIM&R's vibrant membership community numbers more than 2,700 individuals, and includes professionals representing human and animal research protection programs and institutional biosafety programs, as well as researchers, institutional officials, government personnel, subject advocates, ethicists, policy makers, pharmaceutical and biotechnology leaders, and attorneys.
>
> Via a wide variety of conferences and courses, PRIM&R provides balanced, well-researched, and accurate information on the range of ethical and regulatory issues affecting research, while also offering unparalleled access to certification, networking, and professional development resources.

Education

> PRIM&R's conferences serve as an open and independent forum in which stakeholders–representing research institutions, hospitals, universities, the federal government, pharmaceutical and biotechnology industries, and advocacy groups–come together to consider key issues related to human and animal subjects research.
>
> Our conferences address the latest ethical, regulatory, and policy-related developments in biomedical and social/behavioral/educational research. Speakers and presenters are leaders in the fields of human and animal subjects research, bioethics, and science policy. Conference participants hail from throughout North America, South America, Africa, Asia, Australia, and Europe.
>
> In addition to conferences, PRIM&R offers highly acclaimed At Your Doorstep on-site education/training programs, including Institutional Review Board (IRB) 101, IRB Administrator 101, and more. PRIM&R offers these programs at institutions throughout the United States and overseas, as well as in conjunction with our national conferences.

Defending the Status Quo (NABR)

The National Association for Biomedical Research is an organization that appears dedicated to assisting the research community's continuing resistance to impediments created by reformists and liberationists groups. Here are some statements taken from their web site. (See www.nabr.org/about.html)

> The National Association for Biomedical Research (NABR) is the only national, nonprofit organization dedicated solely to advocating sound public policy that recognizes the vital role of humane animal use in biomedical research, higher education and product safety testing. Founded in 1979, NABR provides the unified voice for the scientific community on legislative and regulatory matters affecting laboratory animal research. NABR's membership is comprised of over 300 public and private universities, medical and veterinary schools, teaching hospitals, voluntary health agencies, professional societies, pharmaceutical companies and other animal research-related firms.

> NABR supports the responsible use and humane care and treatment of laboratory animals in research, education and product safety testing. Further, the membership believes that only as many animals as necessary should be used; that any pain or distress animals may experience should be minimized; and that alternatives to the use of live animals should be developed and employed, wherever feasible.
>
> Still, the Association recognizes that now and in the foreseeable future it is not possible to completely replace the use of animals and that the study of whole, living organisms is an indispensable element of biomedical research and testing that benefits all animals
>
> Animal activists and their lawyers are using increasingly sophisticated and coordinated legal strategies in an attempt to incrementally change how our laws relate to animals.
>
> Anti-cruelty laws have existed for many years. In recent years, however, these laws have been expanded and strengthened. In 1994 only 15 states had felony anti-cruelty statutes; today 41 states and the District of Columbia have felony anti-cruelty laws.
>
> The introduction of "guardian" laws, pet trusts, pet custody disputes, and lawsuits alleging, veterinary malpractice, loss of companionship, and infliction of emotional distress in cases involving animals all contribute to a new and expanding body of law relating to animals.
>
> The potential consequences for biomedical research are not readily apparent, but it is clear that many animal rights activists and animal rights lawyers believe research on animals should be prohibited.

Conclusion

Nearly all of the organizations that we have covered above believe in the legitimacy of using animals for research, and are, at best "reformist." The main focus in regard to animal care is on housing rather than also on the use. A common theme in most of these non-governmental organizations, and in the governmental agencies with whom they cooperate is (1) that self-regulation is better than governmental regulation because its preserves the autonomy of the scientist and (2) should be based on more scientific information. Where there is regulation (3) it is better to use *performance standards* rather than *engineering standards* since they are more flexible and appropriate for applying to the variety of situations and animals used in various projects. And (4), a recurring theme, good science require good animal welfare. They are better tailored to the individual animal. (5) But the criteria for adequate performance are to be based on the *professional judgment* of the user or of the institutional monitors, who are trained by the same scientific community and have allegiances to the continuation of the use of animals in biomedical research. The principal goal of most of these organizations seems to be to defend current practices against "anti-vivisectionist" critics by claiming to police themselves more accurately than outsiders could. Although these organizations advocate reform on the grounds that it is ethically required, the actual motives, one suspects, is to eliminate the more sensational abuses that have been brought to the public's attentions by such organizations as HSUS and by the many other groups that are critical of on-going practices harmful to the animals being used.

The “animal care” tradition” and the “animal welfare” tradition imported from Great Britain by Gesell and his daughter, who founded the Animal Welfare Institute, were forced into some sort of blending by the US 1985 Animal Welfare Act. But, as we will see in the next chapter, the compromises called on by this act did little to place “welfare” into the vocabulary of users and their institutions and the agencies that regulated their use of animals. In the following chapter, I will discuss some of the actors involved in developing and resisting the act, and point out what sort of compromises actually took place. One thing is clear. The appeal to the professional judgment of experts remains.

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Chapter 4
Laboratory Animal Welfare Issues in the US Legislative and Regulatory History

The purpose of this chapter is to show that the 1985 US Animal Welfare Act represents a compromise between critics of the use of animals in scientific research and users and their institutions and associations. But even though there were some gains for the critics, the deferment to the judgment of user experts about what sorts of housing and use was most conducive to animal welfare kept significant control of the use of animal models in the hands of the users. In addition to the effects of this control in diluting the progress that the critics, in supporting the act, hoped to gain for the benefit of animal models, the regulatory agencies were generally lax in enforcing whatever improved standards the regulations seemed to impose. For the sake of brevity, I will confine my analysis to the US. For a comparison between US and British legislation, see Garner, 1998.[1] For an account of British and European animal welfare law, see Radford, 2001.

Although the animal welfare and antivivisection movements have a long history of efforts to prevent cruelty to animals and to regulate the use of live animals in research (see Ryder, 1989, 2001, e.g.), the first Federal Legislation that required adherence to animal welfare standards in the US was passed in 1873. It barred confinement of livestock in rail cars for longer than 28 hours (OTA, 1986, p. 275). "Continuing expression of concern led to the repeal of the original act and the passage in 1906 of the Twenty-Eight Hour Law still in effect today [45 U.S.C. 71–74]" (OTA, 1986, 275). "Similar concerns about needless suffering undergone by food-producing animals led Congress to pass the Humane Slaughter Act [P.L. 85–765] in 1958, permitting slaughter only by 'humane' means" (OTA, 1986, 275).

The first regulation of animals used in research was the Laboratory Animal Welfare Act. H.R. 13881 became PL 89–544 in August, 1966. The act required licenses for dealers. Research facilities were required to register with the Secretary of Agriculture and comply with any rules and regulations s/he may impart. All dogs and cats transported or sold must be identified according to specifications of the Secretary. Humane standards must be employed. Violations are to be determined by inspections. Research facilities in violation must be subject to fines.

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[1] For a critique of Garner's position, see Francione (1996), esp. Chapter 5. See also Francione's analysis of animal rights in Sunstein and Nussbaum (2004), Chapter 5.

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Dealers will have their licenses revoked for a violation (Clingerman et al., 1988). While a large part of the public concern that lie behind the support of this bill was the use of stolen pets in research, with a major focus on cats and dogs, the law regulated laboratories conducting research on dogs, cats, hamsters, guinea pigs, rabbits, and nonhuman primates (Hearing on HR1770, p. 11 Glosser, 1990). Apparently the reason for choosing to protect these animals was that they were pets or were intelligent. Record keeping was required only for dogs and cats, and the Secretary of Agriculture was permitted to prescribe standards of treatment only for the protected animals while they were being housed in research facilities, but not when they were being used in research (OTA, 1986, p. 277). In hearings, DHEW opposed licensure for research facilities, and the Sec. of Agr. claimed that it was not equipped with the resources or expertise to handle enforcement (OTA, 1986, p. 277).

In 1970, Congress amended the animal welfare act by passing the Animal Welfare Act of 1970 [PL 91–579]. "Continued allegations of poor treatment of animals by unregulated parties and expressions of concern for experimental animals besides dogs and cats prompted Congress to pass ..[this Act]... to cover a broader class of animals" (OTA, 1986, p. 278). Now all "warm-blooded animals" used in research are covered. The Act gives the Secretary the authority to determine whether an animal is being used in research. If it is, then the animal is covered.

In 1977, the Secretary promulgated regulations excluding rats, mice, birds, and horses and other farm animals from the definition of "animal." (9 CFR 1.1(n) (o) "The introductory comments published by the Secretary upon issuing the regulations did not discuss the basis for the exclusion [2 FR 31022]" (OTA, 1986, p. 278).

> The Secretary's 1977 regulatory exclusion of rats and mice from coverage of the act appears to be inconsistent with the language of the 1970 amendments. The exclusion of rats and mice from the definition of "animal" appears to frustrate the policy Congress sought to implement in 1970 and consequently to be beyond the Secretary's statutory authority.
> (OTA, 1986, p. 278)

> The amendments announced a commitment to the humane ethic that animals should be accorded the basic creature comforts of adequate housing, ample food and water, ... reasonable handling, adequate veterinary care and the appropriate use of anesthetic, analgesic....
> (OTA, 1986, p. 279)

The 1970 limitation to animals while housed rather than when actually being used in a research project remained and reports on the bills made it clear that there was no intention to extend authority to law enforcement officers or private citizens to harass research facilities.

> ...the research scientist still holds the key to the laboratory door. This committee and Congress, however, expect that the work will be done with compassion and with care."
> (OTA, 1986, p. 279; and Report to Accompany HR 19846, H. Rpt. 91–1651)

Amendments to the Animal Welfare Act in 1976 (PL 94–279), among other things, extended to Federal research facilities the existing requirement to demonstrate at least annually that professionally acceptable standards governing the care, treatment, and use of animals are being followed (OTA, 1986, p. 280).

Congress amended the Animal Welfare Act for the third time by including provisions in the Food Security Act of 1985 (PL 99–198) for strengthening standards for laboratory animal care, increasing enforcement of the Animal Welfare Act, providing for the dissemination of information to reduce unintended duplication of animal experimentation, to reduce or replace animal use, to minimize animal pain or distress, and to aid in the training of personnel involved with animals (OTA, 1986, p. 281). Among the new provisions affecting research facilities is the empowerment of local law enforcement agencies to gain access when searching for lost animals and the bestowal upon the Secretary of Agriculture a "latitude to exercise judgment in enforcing the law and the obligation to execute a number of distinct duties" (OTA, 1986, p. 283). Animals include all animals used in research, except "birds, rats, mice, and horses and other farm animals 'intended for use as food or fiber, or livestock or…[for] improving animal nutrition, breeding, management, or production efficiency, or for improving the quality of food or fiber' " (OTA, 1986, p. 284). APHIS inspectors can act to confiscate suffering animals under certain conditions. Part 3 of the regulations details specific standards for humane care according to category of defined animals – dogs and cats, guinea pigs and hamsters, rabbits, and nonhuman primates (OTA, 1986, p. 285).

The 1985 act "revises the standards, required to be promulgated by the Secretary of Agriculture, which govern the humane handling, care, treatment, and transportation of animals by dealers, research facilities, and exhibitors." Added to the House Bill by the Senate version, the "amendment provides that these standards would include minimum requirements … for the exercise of dogs and for a physical environment adequate to promote the psychological well-being of primates" (Conference Report to accompany H. R. 2100 [Report 99–447], p. 593). The reason given for supporting this provision was to help meet the public concern for laboratory animal care in order to assure that research will continue to progress (p. 593). The main purpose of the amendments to the Animal Welfare Act "is to improve the authority of the Secretary of Agriculture to insure the proper care and treatment of animals used in research…" (p. 594).

In 1987, USDA charged APHIS to prepare animal welfare regulations and selected a Committee of primatologists, selected by NIH, to work on primate housing standards for Part 3. Parts 1 & 2 of the regulations implementing the law were published in 1987, but Part 3, regulating standards, was delayed. In April 1987 the APHIS Committee developed a comprehensive report on the regulations. In Review of APHIS hearings conducted by Rep. Brown on July 7, 1988 (Serial No. 100–97), APHIS Administrator James Glosser, announced that Part 3 of the regulations would soon be issued as a proposal (p. 5 and p. 17). In March 1989 a final version of Parts 1 and 2 were published and a proposal for Part. 3 [Fed Reg. V.54, N. 168, p. 36119 refers to docket no. 87–004 published in the Fed Reg. on March 15, 1989 54 Fed Reg. 10897–10954.] A final version of Parts 1 and 2 of the rules were published in the Federal Register on August 31, 1989 (V. 54, N. 168, p. 36163, and comments on the proposed version of Part 3 published in March were discussed and revisions announced together with a call for further comments. A revised version of subparts A (cats and dogs) and subpart D (nonhuman primates), the parts receiving the largest number of comments and generating the most controversy, were published in August 1990 and in February 1991, the final version of Part 3 was published in Fed. Reg. V. 56, N. 32. In addition to specific "engineering standards" requiring minimum cage sizes and other standard operating procedures, it required research facilities and other users to "develop, document, and follow a plan for environmental enhancement adequate to promote the psychological well-being of nonhuman primates." The plan was to be available to APHIS inspectors at their request and appropriate. The plan to be developed by each research facility was to be in place by August 1991.

In 1985, Congress also amended the Public Health Service Act (P.L. 78–184) by enacting the Health Research Extension Act of 1985 (P.L. 99–158). The act requires that each entity receiving PHS support for research with animals establish a committee to monitor care and treatment of animals. The act also requires applicants for NIH funds to file assurances and it contains provisions for the development of alternative research methods. For a discussion of these laws, see OTA (1986, pp. 295–297).

The history of these attempts at the Federal level since 1965 to legislate standards for the humane treatment of laboratory animals and to regulate their treatment, handling, care, and transportation can be seen as a continuing effort to establish a line of discourse among several different groups. One group, often expressed as "the public concern for animal welfare" is an amorphous group of individual pet owners and others who are revolted or offended by insensitivity to animal suffering. Included among pet owners are those who have suffered from pet thievery fostered by a growing market for experimental animals. This concern was clearly a major motivation behind the numerous bills filed in 1965 and 1966 that led to the passage of the 1966 Laboratory Animal Welfare Act. A second group consists of researchers who use animals in their research, together with the network that supports this research. The network consists of professional associations of researchers who use animals, the research input industry (including dealers who supply laboratory animals), other professionals and their organizations who are concerned with guarding the rights of professionals to police themselves, research managers and the administration of research facilities who profit from receipt of grants from funding agencies, research organizations, their lobbying associations, and their constituencies, private sector R&D who rely on public sector research for information basic to the technologies they develop and market, and, most remote from the actual research, the general public who view themselves as consumers and users of new technologies. A third group consists of various animal welfare organizations that derive support from the general publics' concern for humane treatment, and attempt to express this support actively by lobbying for legislation and other means of promoting institutional changes in the way animals are used in research. While early attempts at legislation seemed to aim primarily at dealers, including those who supplied animals to research facilities, increasing public concern about the use of animals in research led to the 1970 amendment, which covered all animals used in research. But the limitation that it applied to them only while they were being housed rather than when they were actually being used in a research project was a sign of the reluctance of Congress to interfere with scientific research and with the judgment of researchers about what sorts of uses were essential to that research. As I said earlier, the limitation also protected the privacy of the research project. ("....the research scientist still holds the key to the laboratory door. This [Congressional] committee and Congress, however, expect that the work will be done with compassion and care" H.Rpt, 91–1651.) The 1970 amendment can be seen as an uneasy effort on the part of Congress to mediate public concerns about the abuse of laboratory animals and the autonomy of researchers and their professional organizations to regulate their own research. But it does represent an incursion, however gently expressed, into the private domain of the research facility. The 1976 amendment extended to Federal research facilities the requirement that they demonstrate annually that professionally acceptable standards governing the care, treatment, and use of animals are being followed. But in both amendments, the intent of Congress to control the discourse of the critics (the general public's perceptions of the standards followed by researchers as mediated by animal welfare groups) by locating the appropriate standards that critics in this discourse should use in the domain of science. "Professionally acceptable standards" clearly refers to (1) the rights of experts to judge what uses are required scientifically in research, (2) the rights of scientists to insist that criticism be based on scientifically valid data, (3) the rights of attending veterinarians to judge what is in the interest of animals used in research, and (4) finally, the notion that the professional ethics of researchers and veterinarians require a concern for the humane treatment of animals. These attempts to expropriate the standards of "outsider" critics, however, remained incomplete. One reason was the continued "expose" of laboratory abuse by welfare activists, and complaints that APHIS, the Animal and Plant Health Inspection Service of the U.S. Department of Agriculture charged with the enforcement of the Welfare Act standards, was enforcing the standards in a less than enthusiastic manner. The Secretary of Agriculture at no time in the history of this legislation appeared to want its designated responsibilities of enforcing the Act and its amendments. And while APHIS clearly lacked the funding to support a strong inspection and enforcement program for animal welfare, the Department refused to request the funding needed, and proposed in the 1986 administration budget to eliminate the program entirely. A GAO study ordered by the Chairman of the Subcommittee on Agriculture, Rural Development and Related Agencies Committee of Appropriation of the U.S. Senate reported on the inadequacies of this program. The report was based on a study of the inspection patterns in a sample of six states. The study found that inspections were less than half of the frequencies considered desirable, the follow up on reported deficiencies was weak, there was little to no monitoring of the program, and the inspectors were poorly trained. While part of the fault for these deficiencies was under-funding for the program, USDA did not appear to ask for increased funding. At the same time, the question of the adequacy of training for inspectors came up and, in that context, the vagueness of the standards that they were being asked to enforce. The problem of enforcement of the existing Act and its amendments became one of the major factors behind the 1985 amendment.

In the hearings on H.R. 5725 (Serial No. 98–86),[2] several witnesses, including the Committee Chairman Rep. George E. Brown, Jr., expressed concern about the poor enforcement of the 1976 Act by APHIS. This concern was expressed in the context of claims by a number of organizations, including the Secretary of Agriculture, that the objectives of the bill would be better achieved through regulations rather than new legislation. Bert Hawkins, testifying on behalf of APHIS, argued that the enforcement problem could be solved by better funding for APHIS. Rep. Brown and Rep. Staggers alluded to the as yet unpublished GAO report mentioned above as evidence of poor enforcement (Hearing, pp. 27 and 57) and a forthcoming OTA study with similar conclusions, and Brown continued to express some skepticism, given human nature and the nature of institutional frameworks, that the scientific community could be relied on exclusively to police itself on these matters. Similar points about self-enforcement were brought up in the hearings by Franklin M. Loew, Dean of the School of Veterinary Medicine at Tufts. Loew argued that it is in the interest of the scientific community to have properly enforced laws because such laws protect not only the animals used in research but the public interest in science, and Loew also alluded to a "scientific orthodoxy" that can be (by implication) as dogmatic as the orthodoxy of antiscience.[3] In the same hearings, Herbert Rackow, representing Scientists Group for the Reform of Animal Experimentation, refers to a study supported by The President's Commission for the Study of Ethical Problems in Medicine and Biological Research, by the American Association for the Advancement of Science, and by Medicine in the Public Interest on the use of human subjects in research.

> It points out that scientists in a university setting are under pressure to produce results and justify more money for research. Promotion, tenure, salary, laboratory space and help, travel, and other professional requisites depend upon research productivity. There is a strong conflict of interest that may affect even the best persons. The University system of governance grants almost complete autonomy to departments and individual scientists. This may result in inadequate protection for human research subjects…. If these considerations concerning research on human subjects are valid, then the need for protection is even greater when the subjects are animals (pp. 98–99).

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[2] This was the House version of the bill enacted into law as part of PL 99–198 (The Food Security Act of 1985) that amended the previous Animal Welfare Act and its amendments. The hearings on this bill were the only hearings held. It was the Senate version [S.2100] that was reported out of conference as the recommended version and it added several features not included in the House version, including the requirement that dogs receive adequate exercise and nonhuman primates be housed in an environment adequate to promote their psychological well-being.

[3] Loew refers to hearings held in 1981 by Mr. Walgren and in 1982 by Mr. Waxman in which many other aspects of animal experimentation are discussed. See the Hearings before the Subcommittee on Science, Research, and Technology on October 13 and 14, 1981 conducted by Walgren, and another conducted by Waxman on the Walgren Bill – Lab Animals – before the Subcommittee on Health and Environment, December 9, 1982.

The OTA study, reported in Chapter 13 of OTA, concurring with the findings of the GAO study, cite a number of enforcement problems, including the reluctance of the USDA to even request the additional funding needed to assure greater compliance. In its concluding section of Chapter 13 ("Federal Regulation of Animal Use") the OTA study identifies a number of criticisms of the present system of Federal regulation. Whether these criticisms can be met by strengthening existing statutes or regulations will require judgments about a number of important questions, the study concludes (OTA, 1986, pp. 298–299). One important issue is whether "strengthening existing laws will promote resolution of or enhance differences between the research and animal welfare communities." In spite of the several amendments to the 1966 Act, however, "A legislative reluctance to invade the actual conduct of research remains clear" (OTA, 1986, p. 299). This reluctance continues to appear in subsequent policies by APHIS in adopting and enforcing regulations (see, for example Review of USDA's APHIS: Hearing on July 7, 1988 [Serial No. 100–97] where APHIS discloses that its enforcement policy focuses on education).[4]

To protect scientific research from further public concern about its use of animals, the 1985 amendment attempted to remove some of the obstacles to better enforcement, while still keeping a large amount of the control of the standards to be enforced under the control of the scientific community. The amendment required that the USDA formulate regulations that set standards for humane care, handling, use, and transportation of animals used in research. These standards were supposed to remove some of the vagueness from the existing standards that was cited as one of the sources of poor enforcement by inspectors (lack of training). In addition to a stronger role by the USDA in setting and enforcing animal welfare standards, research facilities were required to form animal care committees that would approve research protocols to ensure that they complied with these standards in the dimensions of avoiding unnecessary use of animals when alternatives were available, and that the research was conducted in a manner that was as humane as possible. At the same time, neither the Secretary of Agriculture nor the animal care committees were entitled to interfere in the design of research. The former distinction between standards that applied when the animals were housed and standards that applied when they were used in research, was now slightly compromised by the authority of the institutional animal care committees and the requirement that assurances be given that research that was painful to animals was neither duplicative nor unnecessary. One important result of the amendment was to force users and IACUCs to take pain more seriously and to use analgesics to reduce or prevent it.[5]

A requirement was added to the original House version of the bill that the Secretary of Agriculture develop standards that included minimum requirements for research facilities to provide dogs with appropriate amounts of exercise and nonhuman primates a physical environment adequate to promote their psychological well-being. This requirement provided the background for the next round of struggles to find the acceptable balance between agency definition and enforcement of animal welfare standards and institutional self-enforcement. Outside critics complained about the slowness with which APHIS undertook the development of the new regulations mandated by the 1895 amendment. In the 1988 annual review of APHIS conducted by the House Subcommittee of Department Operations, Research, and Foreign Agriculture of the Committee on Agriculture, Rep. Brown urged APHIS Administrator James W. Glosser to hasten the review of the comments on the proposed regulations, especially those on dog exercise and primate psychological well-being, areas, according to Glosser, that posed some concern or issues that needed to be addressed. Brown indicated that continuous change in improving these conditions was necessary because Part 3 was "of a great deal of concern to those in the animal welfare community (p. 19)," and further, that unless such change was forthcoming, APHIS might be "faced with a different set of actors and different results." By publishing a series of proposed rules and inviting comments from different groups, APHIS appeared to attempt a compromise between research facilities and outside critics. Nevertheless, APHIS appeared to try to manage the discourse by seeking expert opinion in every area in which controversy appeared. In one of the most controversial areas, that of defining the concept of nonhuman primate psychological well-being and in setting standards for promoting it through improvements in the physical environment of the housing of the primates, APHIS ran into unexpected resistance by the research community to accepting the standards articulated by a committee of NIH experts appointed by APHIS to study the problem.

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[4] See Francione (1996) for various criticisms of the 1985 act.

[5] Until this amendment, scientists using animals tended to discount the fact that pain even existed in animals. After the amendment, this practice ceased and pain was taken seriously, but "distress" was not given official recognition by APHIS until two years ago. (See Rollin, 2006, esp. Chapter 5.)

The final decision by APHIS to handle the problem of developing clear standards for primate welfare was to divide the issue into the establishment of "engineering standards" that were minimum for (physical welfare) and performance standards for psychological well-being, even though the division between these two types of standards in their relation to the two types of welfare was not absolute. Engineering standards were adopted for minimum cage size, for sanitation, lighting, and temperature, and for other facilities to protect primates from inclement weather and from contamination and predation by other animals, including humans. Some recognition of the "psychological needs" of primates was evident in some aspects of these engineering standards, such as the removal of the previous requirement that all surfaces be impervious to water so that more "natural" materials might be used. The use of natural materials was thought justified because of the belief that primates in more "natural" settings would benefit psychologically. However, standards for conditions to promote the psychological well-being of primates were left vague, with only the stipulation that each research facility develop its own plan for environmental enhancement and for other means of promoting psychological welfare. The prescribed plans had to be "appropriate" and had to take into account the social needs of primates and house monkeys together when ever possible and whenever safe. Other than these requirements, the final regulations about the standards for promoting the psychological well-being of primates left it up to the respective research facilities to develop their own standards and have them available for APHIS inspectors to use as a guideline for inspections. Thus, APHIS chose to err on the side of caution in siding with the research community's complaints about the lack of scientifically validatable information regarding the psychological needs of primates, by leaving the judgments up to the body of experts in each institution to make use of the existing and acknowledged body of professional data – and the professional judgments of attending veterinarians – in developing their own plans. The rationale for this decision might appear somewhat contradictory. The reasons seem to be that (1) the psychological needs of primates were variable not only in terms of species differences but also in terms of the socialization history of the individual primates and in terms of the particular combination of animals that were housed at any one time in a particular institution. No universal "engineering" standards could do justice to this variability without running a serious risk of doing damage to the very animals the law sought to protect. The development of these standards were best left up to experts who were familiar with the local situation and who were also trained to recognize how each individual animal was faring (the professional judgment of the attending veterinarian). Furthermore, (2) if psychological needs are thought to be essentially different than physical needs and psychological well-being a different condition than physical well-being, there was a general lack of information about this new dimension of welfare.

Three options seemed to be recognized by those discussing this issue within the research community. Either psychological well-being can be evaluated by the same criteria that are used to evaluate physical well-being (and no special category exists), or "psychological well-being" is an indefinable and somewhat unusable concept; or, finally, it is a dimension about which there is little existing information, and new research must be conducted to fill the information void. There is a middle ground for these three positions that many institutions, forced to develop some plan or other, chose; that is to assume that some things could be done to improve the way that primate psychological needs can be met and these are to be done.

A critical response to the decision by APHIS to handle this controversial task in his particular manner came from many animal welfare groups and other outside critics who had been complaining of the lack of enforcement of existing animal welfare regulations. Some of these groups were clearly impatient with the idea that researchers and research facilities could be trusted to self-regulate. The history of this complaint can be seen as part of the larger debate about the relative merits of external versus self-regulation not only of the use of animals in research, but in the larger sphere of professional accountability and professional ethics. One of the major arguments used to justify professional self-regulation is based on a dualistic conception of insider communities and outsider communities. This dualism is endemic to the very conception of professional – one uniquely qualified by their expertise to make judgments about important areas of human concern. When these judgments must be based on relatively scarce information, it is the judgment of the expert who has access to this information that is to be preferred over the nonprofessional, who by definition lacks access. Professional codes of ethics normally require professionals to balance the needs of their clients with the larger social needs that provide the social environment in which the clients' needs are served. When a client's needs conflict with those of the professional and do not get adequately served, there exist clear procedures for the plaintiff to follow in filing a complaint either with the professional association that administers the code and the licensing, or with the courts. The argument for self-regulation then circumscribes major areas within the sphere of the professional activity to be regulated that require this sort of expert knowledge as a foundation for sound judgment about ethically required choices. When the knowledge is not applied, the expert is vulnerable to a charge of "malpractice." When the client's interests are not served because the professional places their own interests ahead of their clients, or other social requirements are not met, the professional is also vulnerable to reprimand. In either case there is a plaintiff who is thought to be qualified to recognize when the professional has failed to serve the required needs. But in the case of scientists using animals for research, the interests of the animals can only be protected if they are regarded not as clients but as objects of social concern. For a critique of claims for professional autonomy, see Bayles (1981).

The major argument from the other perspective is that there is clearly a conflict of interest between the experts' needs to be successful in their careers (and the institution's needs to reduce research expenses) and the needs of the animals used in research. Even when there are appointed guardians for the needs of the animals (e.g., the attending veterinarians), the veterinarians are so closely tied to the needs of the research community (and are typically animal users themselves) that the needs of the institutions provide a larger framework that colors the judgments. In general, in fact, the concept of client in veterinary medicine is less clear cut than in other professional practices, since clients are more likely to be thought of as animal users who hire veterinarians to keep their animals in "good health" rather than the animals themselves acting as clients. Thus it is the way in which the needs of the client determine how the benefit to the animals is to be defined that creates this confusion about clientele. This argument has been expanded to include a criticism of the biases represented by standards defined largely by various social classes that can be seen, historically, to dominate the various professions. These biases can interfere with the professional's capacity to serve the interest of clients whose interests differ from that of the dominant group, but are nevertheless defined in such a way as to covertly serve the interests of the dominant group. The use of "patriarchal" modes of consciousness in various medical professions to reinforce the social domination of women, or other historically oppressed groups is often cited as an example of one sort of failure at self-regulation by professional groups. Another argument is that various disciplines are dominated by particular paradigms that exclude their alternatives and bias the professional to see problems and their solutions within that particular context. Problems not identified by the paradigm are not addressed nor are solutions.

In the next two chapters, I will discuss in more detail two important issues: (1) the problems encountered by the requirement of the 1985 act and also the 1985 Public Health Service Act that user institutions establish Institutional Animal Care and Use Committees, modeled on the Institutional Review Boards used to monitor research using human subject, to monitor the housing and use of animals; (2) the problem of defining psychological well-being, when applied to non-human primates. I will offer my own solution to these two sets of problems.

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Chapter 5
Mandated Institutional Animal Care and Use Committees

The Origin of the IACUC

The animal care committee of a research facility was conceived, historically, on the model of the Institutional Review Board (IRB), and, probably, on the model of review boards that hospitals and other sites for the provision of professional services developed to facilitate decision-making about withholding or withdrawing life-sustaining support systems for severely disabled patients, including neo-nates (Rowan, 1990; Orlans, 1993; Dresser, 1990; OTA, 1986). It was introduced in the 1985 Animal Welfare Amendment (AWA) and the 1985 Health Research Extension Act (OPPR, 1986) as a compromise between external regulation of the use of animals in research and professional voluntary self-regulation (OTA, 1986; Rowan, 1990). It is required by law that IACUC's have a nonscience member and a nonaffiliated member (AWA only requires a nonaffiliated member, but OPPR requires a non-science member). The 1985 AWA was, itself, introduced by the "friends of science" to keep the public off the backs of researchers. (USC, HR 5745, 1984). One of the principal objections raised against the claim that the professions have traditionally made about the right to professional autonomy and self-regulation (and its scholarly version – academic freedom) is that scientists, working in an environment that requires published research for advancement, experience a serious conflict of interest in trying to balance the interest of their animal models with the interests of advancing their research. (See Loew and Rackow, USC, HR 5745, 1984.) The nonaffiliated member of the IACUC is supposed to oversee that the interests of the animals used in research are not compromised by decisions made by animal users (and the institutions that support them) when there is such a conflict of interest. As one historian puts it, "It is the role of the nonaffiliated member to see that the decisions about ethical animal use are made objectively" (OTA, 1986). Expressed in the regulations, the role of the nonaffiliated member is to provide "representation for general community interests in the care and treatment of animals." The role of the nonscience member is not addressed at all, except in the clarification that this person "have primary concerns in a nonscientific area (for example, ethicist, lawyer, member of the clergy)" (OPPR, 1986).

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In looking through the literature, I found very little guidance about how the nonaffiliated member is supposed to perform their role, or what role the nonscience person is to play on the committee. The guides that have been written for IACUC members, including the Canadian Federation of Humane Societies *Guidelines for Lay Members of Animal Care Committees* (1986), do not single out any special role for either the nonscience person or the nonaffiliated member.[1] What literature there is seems to suggest that these members are more likely to be in a minority and to feel isolated if they try to express minority views. While certain roles have been suggested, they have, largely been rejected as official mandates. For example, some have argued that, on the model of IRBs and hospital review boards, the nonaffiliated member, in representing the interests of the larger community, should be an advocate for the animal. Some have taken this to imply that the nonaffiliated member represent an animal welfare advocacy group, as is required by legislation in some countries,[2] but this interpretation has been largely rejected in the practice of US IACUCs, and it has been suggested instead that the veterinarian whose presence is required function in this capacity (Rowan, 1990). There is some implication that the nonscience member should provide a perspective that is concerned with the application of principles to the decision making. Whether they be moral principles (the ethicist), legal principles (the lawyer), or religious ones (the member of the clergy) seems irrelevant. In short, while various guides suggest that the decision making is more likely to be fair if a number of different perspectives are represented, it is very loose about how these different perspectives are to be identified. The nonaffiliated person could be a researcher from a different institution. The nonscience person could be someone who shares the general values of researchers, or someone who doesn't.

Professional Autonomy and Conflicting Values

Franklin M. Loew, Dean of the School of Veterinary Medicine at Tufts University testifying at the hearings on HR 5725 (USC, HR 5725, 1984, p. 37) in discussing the need for the Bill describes what he calls a "scientific orthodoxy" that can be as dogmatic as the orthodoxy of the anti-science behind anti-vivisectionism. The idea that scientific orthodoxy reflects a set of biased values that excludes alternatives is hardly new. Progress in science, according to science historians like Thomas Kuhn (1970), requires that a scientific community share a network of assumptions that become background to their research program. Scientific revolutions occur when some of these background assumptions are brought into the foreground and challenged. But in its day to day work, those who challenge these assumptions tend to be marginalized. Some scholars have argued that there is an "ideology" of science that serves to conceal from both scientists and the public at large that these assumptions exist, and, also, that scientists work in institutional settings that determine the goals that scientific knowledge is designed to achieve and the particular set of interests these goals serve. Louise Antony refers to this ideology as "the Dragnet Theory" (1993). Bernard Rollin refers to it as "scientism," a set of beliefs that justify separating facts from values, and that serve, in the case of the sciences that use animal models, to perpetuate a Cartesian skepticism about other minds, especially if they are nonhuman minds (1989). This organized skepticism is expressed in different ways by those whose work is produced in different disciplinary matrices, but in each case the claim to represent a discipline is based on commitment to a specific set of values. Commitment to these values is supposed to produce knowledge in the subject-matter field. Generally, the production of scientific knowledge and its attendant costs is justified by alluding to two general human goods: knowledge for its own sake (pure or basic knowledge) and technical knowledge.[3] Although technical knowledge is sometimes thought to be value-free, in that it does not tell us what goals to pursue but only how to achieve whatever goals we choose, in practice the development and adoption of specific technologies often determines how those goals are to be conceived and who will have access to them. To the extent that a research program is based on a certain conception of human health and basic to a set of technologies that determine who has access to health, it is hardly value free.

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[1] While the use of the term "lay member" is popular, it should be pointed out that there is no requirement that the nonaffiliated member be lay in the sense of a nonprofessional or a nonscientist. It is enough that the person is not affiliated with the user institution.

[2] Orlans (1993, p. 101) mentions Germany, Denmark, Switzerland, and Australia as requiring participation of animal welfare organizations. In fact, the German law of 1986 requires that one-third of its 12 member committee be experts from national animal welfare organizations. It is also interesting to note that while the PHS requires a minimum of five members and the AWA requires a minimum of three members, if these numbers were taken as normative for the distribution of representation, then we would expect larger committees to have proportionately larger numbers of nonaffiliated and nonscience members. But most IACUCs keep these special members in a distinct minority. For an argument that IACUCs should include members of animal protection groups, see Levin and Stephens (1994/1995). See also *Laboratory Animal Science* (1987), *Effective Animal Care and Use Committee*. Special Issue, January, 1987; and OLAW/ARENA (2002), *Institutional Animal Care and Use Committee Guidebook. 2nd edition*. NIH; and OPRR/ARENA (1992), Institutional Animal Care and Use Committee Guidebook. NIH Publication No. 92-3415.

I mention all of these things about science because it is relevant to the claim that scientists and scholars working within the tradition of the liberal arts and sciences require and deserve autonomy and a cademic freedom to place the findings of their research in the marketplace of ideas. Because science is value free it should not be regulated. This is one of the foundations for the claim to self-regulation. An analogous claim is made in regard to the right of the professions to regulate themselves. Professionals are certified experts in a form of applied knowledge that has a value to the clientele of that profession. As I pointed out in Chapter 4, the need to regulate the professions is based on two claims. One is that a professional may fail to provide the contracted service to the client, either because of a conflict of interest or because of a lapse in competence. The other is that the values that the clients receive might be in conflict with larger social values, such as when an attorney defends a client at all costs without consideration for other needs of justice, or when an engineer designs a building to save costs to the builder, but putting future users at risk. Professionals have traditionally claimed the right to self-regulate because it takes expert knowledge to identify the norms to which they must comply. So does judging whether there has been incompetence or negligence in the failure to comply with them. However, it has been pointed out by critics that these norms themselves reflect a bias toward the values that professionals provide for their clients. One solution to regulation where some form of expert knowledge is required is to introduce community representatives into the regulation process so that the "larger community values" could be put into competition with the narrower biased values of the professions. One example would be where a hospital committee might add to the perspective of the physician committed to the value of preserving life at all costs the perspective of an advocate for either the family of the patient or the severely disabled patient, an advocate who would try to make claims about the quality of the patient's life under current conditions.

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[3] "Pure" usually means knowledge for its own sake conceived as an Aristotelian good – all humans desire to know just for the sake of knowing, and the highest human good is to know. "Basic" usually means basic to the development of specific technologies.

If we look at the potential role of the nonaffiliated member and the nonscience member of IACUCs in light of the above considerations, I think we have some clear suggestions of what those roles might be. The nonaffiliated member seems to be analogous to the "lay" presence on professional regulatory committees, with the caveat that "lay" in this case means "lay relative to the particular profession being regulated." The community representative, in this context, is to represent the larger social values of the community defined as distinct from the particular values that are provided to specific clientele of that profession. What these values are in the case of IACUCs is unclear, unless it is the value that the larger community places on animal well-being. But the nonaffiliated member for IACUCs has been defined, by implication, in a way that almost rules out this role, since there is nothing to prevent the nonaffiliated member from being a researcher who shares the general values of the research scientist. In fact, the idea that the nonaffiliated member represent the general public's interest in animal well-being seems frustrated by the refusal to accept animal welfare advocates as ideal nonaffiliated members. The trend is to think of the veterinarian, another professional, as filling the role of animal welfare advocate. The role of the nonscience person seems somewhat easier to delineate, since the examples suggest that this person would be a certified expert in some field that deals with principles and values or that brings into the decision making process some recognition of values that are not specifically the values of research scientists. In fact, the original model for the IACUC, according to Andrew Rowan, was the Animal Ethics Review Committee established at the University of Southern California (1990). The committee consisted of a bioethicist, a humanist, a surgeon, a veterinarian, a lawyer, a biomedical scientist, an historian, and a lay member.

In a 1988 article in *Investigative Radiology,* Ernest Prentice et al. make some comparisons between problems faced by IRBs and problems faced by IACUCs. For the most part, IACUCs face more difficulty in making principled judgments than do IRBs. One reason is that while IRBs have some resources to draw upon from moral theory in protecting the rights and welfare of human subjects, these appear to be lacking in regard to nonhuman animals. While there is widespread agreement that humans deserve (equal) moral consideration, there is no consensus about the moral status of nonhuman animals. It is also easier to have empathy for humans and thus sympathize with their suffering, while there remains some dispute about what animals experience. Humans are also thought to practice autonomy – they can give or withhold their consent. But it is not clear how we might recognize autonomy in nonhuman animals.[4] According to these authors, IACUCs must serve as an animal advocate with a role analogous in some respects to the one occupied by an advocate for a severely retarded human. Yet there are no established ethical guidelines for doing this work, say these authors. Even veterinarians lack uniform standards. How much pain can an animal be asked to endure? What is the ethical cost of taking an animal's life? In spite of this alleged difficulty, my perceptions of the operation of IACUC on which I was a member for a number of years is that most of its members share a set of principles that they employ in evaluating proposals for the use of animals. These principles seem to be (1) that pain, distress, and suffering are to be reduced as much as the research design will permit, (2) that research that is likely to produce knowledge that might be socially useful is more important than any ethical costs that animals used in the research might suffer, and (3) that loss of life for nonhuman animals is an ethical cost, though it is not a major ethical cost.[5] In addition to these three principles, most members of the committee also seem to share the belief that veterinarians have expert knowledge about animal well-being and that their conception of well-being should be authoritative. This includes the criteria used in the profession for recognizing animal pain and suffering. These assumptions are challengeable, and they are also self-serving. These beliefs can be challenged even within the general framework of the legal mandate of IACUCs and in a way that is capable of developing some possible consensus. Clearly the latter criteria is important, since most IACUCs are constituted so that the nonscience members are in a clear minority. It would be somewhat pointless to employ principles that colleagues on the committee could not come to share – principles that served to delegitimate most of the research that the institution undertook. If, for example, I were an antivivisectionist, and voted on the principles that support this position, then I could be sure that my input on the committee would have no constructive value. My own view about the role of the non-science person, is that this person should challenge the dominant beliefs of their colleagues on the committee in a way that did not delegitimate the use of animals in research. My view about this role can be called a "middle position" between "antivivisectionists" and advocates of unrestricted use.

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[4] An anonymous reviewer suggested that Regan's concept of preference autonomy could be used here. See Regan (2004, pp. 84–86).

[5] Even in studies where the animals survive the study, surplus animals are terminated unless they can be transferred to another study. Normally research funding only provides maintenance for the animals used during the course of the study. After the study is over, there are no funds for continuing support of the animals.

Constructing a Middle Position

The framework for a middle position has been suggested by the analogy between the goals of IRBs and IACUCs. IRBs generally function on the combined principles that any costs suffered by human subjects must be justified by the value of the knowledge produced (usually this is called a utilitarian principle – the benefits must outweigh the costs in terms of moral value) and the costs must be freely born by those that pay them (this is usually based on the theory that moral subjects have rights to chose to bear imposed costs – the principle of autonomy). Human subjects must give their informed consent. As has already been noted, it is somewhat difficult to apply this framework to subjects that lack the capacity to be informed. But it is not impossible, in spite of its inherent dangers, to construct consent, as advocates for incapacitated humans are forced to do in decisions about withholding or withdrawing life support systems. I see no reason why we cannot make sense of constructing consent for animals born in captivity, as we often do for domestic animals, that their life can be a good deal – exchanging services to their employers for the care that is provided for them. While this construction is fraught with dangers, it is still a better position than one that pays no attention to consent.[6] The use of this model, however, comes up against two obstacles.

One obstacle is that it would work only on the condition that we have effective ways of estimating the costs to nonhuman animal subjects as well as what counts as benefits to them, which would require an adequate conception of animal welfare as applied to the animal in question. Here I think that the shared belief that the professional expertise of the lab animal veterinarian is authoritative remains to be challenged if a genuine middle position is to be established, because I perceive that one of the sources of disagreement between critics and defenders of current use of animals in science is that they are based on competing conceptions of animal welfare. I will come back to this point below.

The other main obstacle is the widespread belief among committee members that loss of life for nonhuman animals has only minor moral significance, a loss that can easily be outweighed by the social utility of knowledge. I believe that a middle position must take the loss of nonhuman animal subjects more seriously. Life is instrumentally valuable for living things that have interests (Sapontzis, 1987, pp. 166–170, and 209–229), and depriving an animal of its life deprives it of a future in which it could pursue its interests. A theory of distributive justice can be used to claim that life is a good equally desired by all sentient living things and that all deserve an equal amount of it, limited only by natural life expectancy and the demand on resources to support life. As a number of philosophers have pointed out, if we can justify sacrificing the life of an animals for some larger social good, then we should also be willing to use severely retarded humans for the same purpose.

I have seen suggestions in the literature about how this middle position might work for constructing consent of animals in terms of limiting their use and retiring them after they have earned certain use credits. But this system would run into some difficulty in justifying terminal studies. The IACUC workshops that I have attended or read about recommend employing a different cost/benefit analysis. Instead of asking whether the costs to the animals are outweighed by the benefit it derives, they ask whether the social gain outweighs the cost to the animals. To employ that criterion is to say that the exploitation of animals is justified as long as the social gain is great enough.[7]

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[6] Sapontzis (1987, pp. 210–213) argues for this position.

The idea of institutional self-regulation by the use IACUCs could work if they followed strictly the main principles of IRBs. If these mandated committees are to be justified in the basic assumption behind the legislation that has required them, that they represent a legitimate compromise between the "vivisectionists" who want no restrictions on their use of animals and the "anti-vivisectionist" who want no use of animals in research, then the principles of constructed consent would have to be followed. It is acceptable to use animals when they are adequately compensated for their work, including any discomfort imposed on them. Otherwise, using animals is exploitative.[8]

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[7] Note that some scholars have argued that biomedical research use of non-human models has no value, since the information gathered about the animals models cannot be transferred to humans. See, for example, Sharpe (1988); Greek (2000); and Greek and Greek (2002).

[8] No doubt there would be some danger that proponents of terminal studies would argue that in accepting room, board, and health care, animals models have implicitly contracted to pay these costs back by participating in terminal studies. The argument could be made that for those animals bred for research, they owe the fact of their existence to their anticipated use. So it is better to have a limited life than no life at all. I try to deal with this claim is a later chapter regarding attempts to justify the use of animals for food.

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Chapter 6

Do Regulators of Animal Welfare Need to Develop a Theory of Psychological Well-Being?[1]

The quest for a "theory of nonhuman minds" to assess claims about the moral status of animals is misguided. Misframed questions about animal minds facilitate the appropriation of animal welfare by the animal user industry. When misframed, these questions shift the burden of proof unreasonably to animal welfare regulators. An illustrative instance of misframing can be found in the US National Research Council's 1998 publication that reports professional efforts to define the psychological well-being of nonhuman primates, a condition that the US 1985 animal welfare act requires users of primates to promote. The report claims that "psychological well-being" is a hypothetical construct whose validity can only be determined by a theory that defines its properties and links it to observed data. This conception is used to contest common knowledge about animal welfare by treating psychological well-being as a mental condition whose properties are difficult to discover. This framework limits regulatory efforts to treat animal subjects less oppressively and serves the interests of the user industry.

A more liberatory framework can be constructed by recognizing the contested nature of welfare norms, where competing conceptions of animal welfare have implications about norm-setting authority, as it does in other regulatory contexts, e.g., food safety. Properly conceptualized, welfare should include both the avoidance of distressful circumstances and the relationship between an animal's capacities to engage in enjoyable activities and its opportunities to exercise these capacities. This conception of animal welfare avoids appropriation by scientific experts.[2]

The development of the psychological well-being regulation is a good illustration of how social norms are contested and then appropriated, and a critique of this appropriation shows how it can be challenged.

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[1] An earlier version of this chapter was published in *The Journal of Agricultural and Environmental Ethics* 14(2) (2001), 231–240.

[2] A capacities-flourishing view that is similar to this was put forth by Martha Nussbaum in her 2004 article "Beyond 'Compassion and Humanity': Justice for Nonhuman Animals."

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Regulatory Background

Although I covered some of this material in Chapter 5, a review might be helpful here.

In 1985, the US Congress passed an animal welfare act sponsored by "friends of science" to protect research institutions from reform pressure by animal welfare advocates.[3] The act required users of nonhuman primates to house animals in conditions that "promoted their psychological well-being." The US Department of Agriculture Animal and Plant Health Inspection Service (APHIS) had to develop regulations that APHIS inspectors could enforce against research institutions.[4] APHIS asked a committee of primatologists to help develop standards.[5] Critics complained that by seeking "expert opinion" whenever controversy appeared,

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[3] Food Security Act of 1985 (HR 2100 became PL No. 99-198 on 12-85). For examples of reasons given in support of the 1985 Act, see the hearings on a similar bill, H.R. 5725 (USC, 1984). For a detailed history of the act see USC (1986) and Clingerman et al. (1991). Added to the House Bill by the Senate version, an "amendment provides that these standards would include minimum requirements … for the exercise of dogs and for a physical environment adequate to promote the psychological well-being of primates" (USC, 1985, p. 593). The reason given for supporting this provision was to help meet the public concern for laboratory animal care in order to assure that research will continue to progress (p. 593). To protect scientific research from further public concern about its use of animals, the 1985 amendment attempted to remove some of the obstacles to better enforcement, while still keeping a large amount of the control of the standards to be enforced under the control of the scientific community. "… [T]he research scientist still holds the key to the laboratory door. This committee and Congress, however, expect that the work will be done with compassion and with care" (USC, 1986, p. 279; 1970).

[4] In 1987 USDA charged APHIS to prepare animal welfare standards for Part 3 of the regulations. This included primate housing. The final version of Part 3 was published in *Fed. Reg*. Aug 31, 1989. In addition to specific "engineering standards" requiring minimum cage sizes and other standard operating procedures, it required research facilities and other users to "develop, document, and follow a plan for environmental enhancement adequate to promote the psychological well-being of nonhuman primates." The plan was to be available to APHIS inspectors at their request and to be "appropriate." The plan to be developed by each research facility was to be in place by August, 1991.

[5] APHIS initiated research into the psychological needs of nonhuman primates maintained by the research community as a background to formulating standards to comply with the 1985 Act. It convened a committee of ten members of the scientific community to undertake to study the needs and to make recommendations to APHIS for means of providing an environment to promote the psychological needs of nonhuman primates. The "experts" were recommended by NIH (*Fed. Reg*., March 15, 1989, p. 10913). The panel of experts on primates issued a report, but the report did not appear to provide APHIS with ample grounds for developing guidelines about nonhuman primate psychological well-being. Keeling, the committee chairperson, in describing the activities of the committee, said, "We also sought and obtained input from organizations, such as the National Association for Biomedical Research, which represents facilities utilizing nonhuman primates in their research" (1990). Brief histories of APHIS's attempt to develop these regulations can be found in Clingerman et al. (1991); and in Novak and Petto (1991). A short piece by Michale E. Keeling, DVM, can be found in Mench and Krulisch (1991, pp. 12–14). See also Mensch et al., 1992.

APHIS was managing the discourse between research facilities and critics.[6] It did this by dividing the standards into "engineering" for physical welfare and "performance" for psychological well-being.[7] The standards published in 1991 required user facilities to "develop, document, and follow a plan for environmental enhancement adequate to promote the psychological well-being of nonhuman primates." The vague standards required only that the plans be "appropriate" and take into account the social needs of primates in housing.[8]

Engineering standards were adopted for some housing conditions, but standards for promoting the psychological well-being of primates were left vague, with only the stipulation that facilities develop their own plans. In leaving it up to the facilities to develop their own standards, APHIS erred on the side of caution by siding with the user community's complaints about the lack of scientifically validatable information regarding the psychological needs of primates, and by relying on the judgment of local experts and attending veterinarians.

In 1996, the USDA established a panel to review the enforcement of performance standards. This panel concluded from the variation in standards that locals did not understand how to prepare an adequate environmental enhancement plan, and APHIS inspectors reported that they had trouble judging facilities' compliance. Rather than replacing "performance standards," however, the USDA has proposed new clarifications, based partly on recommendations from a panel that it appointed in 1996 and from the 1998 National Research Council (NRC) report.[9]

Problems in Defining "Psychological Well-Being"

The problem of defining "psychological well-being" resulted from the way in which APHIS managed the discourse of regulation setting. Acceptance of the industry favored distinction between engineering and performance standards refocused the contest on the criteria to be employed to determine the performance level. To measure the degree to which psychological well-being has been promoted, an authoritative theory of "psychological well-being" is needed. This misframing has caused undue perplexity about how to address this problem. The theory, it is believed, must rest on a theory of mind and must address the so-called epistemological issues that such a theory faces.[10] This confusion persists in the NRC study published in 1998. But it is confusion with a purpose. Promoting the psychological well-being of nonhuman primates has come to mean, "attempting to satisfy the psychological needs of nonhuman primates." This professional appropriation of the regulatory concept is especially evident in the 1998 NRC publication, where, underlying discussion of various difficulties in "defining the concept" is a psychological state model of well-being that equates it with psychological health – an extension of the laboratory animal veterinarian's equation of laboratory animal well-being with physical health.[11] Psychological health is a hypothetical condition described as "an abstraction that is inferred by measuring behavioral and physiological variables in the affected primates to determine whether a manipulation had the desired effect" (p. 10). This conceptualization provides the foundation for an industry appropriation of the regulatory concept based on what I call the "happy worker" model. The link between the disciplinary matrix of the primatologists sponsoring the report and the "happy worker" model can be found in the report's emulation of Robert Yerkes (p. 16).

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[6] For a good selection of critical comments see the letters published in IPPL (1990). Included in the criticisms was the complaint that while the regulations refer to current professional standards, there are no current professional standards. One complaint from a psychologist (p. 26) urges that other types of training in addition to that given by veterinarians is desirable in making enrichment decisions, such as that obtained by persons trained in the area of primate behavior, ethology, or comparative psychology. The sponsor of the dog exercise and primate psychological well-being amendment, Congressman John Melcher, VDM, expressed similar complaints about APHIS's interpretation of this part of the Act (1991).

[7] IPPL (1990).

[8] *Fed. Reg*. (1991).

[9] For a brief account of the background for the new proposed regulations, see IPPL, May 20, 2000 at http://www.ippl.org/899usda.htm. The new proposal by APHIS (9 CFR Prt 3 (Docket No. 98-121-1)) can be found at http://aphis.isda.gov/ac/ee.html. See also NRC (1998).

Psychological Well-Being as a State of Mind

The behaviorist matrix of the NRC report is evident from the initial claim that "psychological well-being" refers to a mental state (p. 1), through the concluding chapter that warns that:

> The phrase *psychological well-being* arose in a regulatory, rather than scientific context. Psychological well-being is a hypothetical construct, and the validity of a hypothetical construct can be determined only in relation to a theory that defines its properties and in relation to empirical data that address the fit between predicted and observed phenomena.
>
> (p. 114)

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[10] There are several sources for these claims about some of the difficulties in "defining" nonhuman primate psychological well-being. For example, Mason (1989) complains that "Psychological well-being is a nebulous concept, and the task of framing a clear and workable definition presents formidable difficulties." Vandenbergh (1989, p. 13) likens it to the word "obscenity" and how it is defined by the courts in attempting to say how it is to be regulated. Mason also cites Novak and Suomi (1988). A section in Novak and Petto's collection (1991) is devoted to the topic ("Defining Psychological Well-being"). At least one contribution in Segal's collection (1989) is also devoted to the question, with a considerable emphasis on the epistemological problems attendant on determining whether "primates have it" (psychological well-being). According to Thomas and Lorden (1989), to deal adequately with the subject, we need to make both metaphysical and epistemological commitments.

[11] For a brief sketch of the two trends in defining animal welfare, see Duncan (2000).

The report inconsistently claims that psychological well-being is an abstraction (p. 10) and a hypothetical construct whose validity needs establishment (p. 114).[12] This inconsistency reflects a methodological wavering between wanting to completely operationalize the concept or to regard it as an hypothesized state of the organism whose existence, properties, and causal role need to be investigated. The enrichment goals listed on p. 16 share this conception of psychological needs as their basis. These needs are seen as the cause of need-satisfaction seeking behavior. The criterion for determining whether there is need-satisfaction is the termination of the behavior. This conception is based on a homeostatic model of normalcy where the presence of stress is an indicator of homeostasis-disruption. Departures from psychological well-being can be found in systematic disruptions of psychological need seeking behavior, or in patterns of behavior that frustrate need satisfaction (see Duncan, 2000).

A clue to the link between the psychological needs conception of well-being and the "happy worker" model theory of labor management is in the report's endorsement of a list of maxims given by Yerkes in 1925 (the "father of the science of primatology") concerning the husbandry and well-being of apes. Using these maxims as guidelines, the report lists five components that a good institutional plan should include. These components represent a mid-20th century theory of enlightened labor management, a theory that Yerkes himself promoted in his later work.[13]

The "Happy Worker" Model

The happy worker model is a hierarchical solution to the binary opposition between labor and management. Management hires experts (industrial psychologists) to sort out workers according to their natural abilities in order to match the worker to the job and to find ways to entice workers to cooperate with management. If workers are happy with the demands placed on them, they will be compliant. They can be made happy by addressing their basic needs and convincing them that they will get need-satisfaction by being good workers. The expert provides need-based information. Given the biological-psychological nature of workers, what needs must be addressed? These are irreducible. Management, then, conditions its workers to be happy with the benefits that management is willing to provide. Analogies to this model can be seen in attempts by the regulative arm of research institutions to elicit cooperation from researchers by arguing that happy research subjects make the best research models. If this is true, then there really are no conflicts between the interests of users and the interests of the animals they use. Animal welfare advocates who object to the exploitative use of animals in research are, therefore, misguided outsiders who lack knowledge about what is in the true interests of these animals.

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[12] For a discussion of the difference between abstractions and hypothetical constructs, see Branch (1977) and MacCorquodale and Meehl (1948). I owe these references to a conversation with Marc Branch.

[13] I have relied on Haraway (1989, 1991) as my source of information about Robert Yerkes.

The Yerkes model is a management appropriation of the labor movement's efforts to resist worker exploitation. It assumes that workers do not have the knowledge to say what is in their own interests. This same sort of appropriation has taken place in regard to the animal liberation movement's effort to stop the oppressive use of animals. The movement needs to articulate a competing conception of animal welfare? A liberal-equalitarian, worker-oriented theory of welfare will serve that purpose.

A Liberal-Equalitarian Model Theory of Welfare[14]

Rawls's conception of equalitarian liberalism can be used as a basis for a worker-oriented theory of welfare. Individuals should have the right to author their own conception of a good life. Their welfare should be measured by the opportunities available to them to live that life. Opportunities can be thought of as access to what Rawls calls primary goods.[15] The labor movement seeks to reduce worker exploitation by making the distribution of welfare between workers and managers more equitable. The goal in reducing exploitation is not for the worker to find a way to be happy with their job but to gain a greater share of primary goods. Welfare should be conceptualized in terms of how well off a person is in terms of the number of opportunities available to them to lead their conception of the good life.

This theory of welfare can be used by the animal liberation movement in spite of conceptual obstacles that some philosophers have found. One set of conceptual obstacles concerns the sense of claiming that nonhuman animals have a life that can be evaluated and that animals can be said to have chosen that life. These obstacles are commonly raised in the context of discussions about the type of consciousness that nonhuman animals have.[16]

What sorts of consciousness various species of animals have has been investigated by biologists and discussed by philosophers.[17] Two relevant issues are, "Do animals have a concept of themselves as having a life and can animals be said to choose one kind of life over another kind?" However, a liberationist conception of welfare only requires a theory of choice that is not based exclusively on need satisfaction.[18] An Aristotelian (as opposed to a Platonic) model will serve that purpose.[19]

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[14] This view could also be expressed in the terms that Nussbaum uses in her 2004 article.

[15] John Rawls (1971, p. 62; 92 ff.).

[16] See, for example, DeGrazia (1996, 1998/99).

[17] Good reviews of this literature can be found in David DeGrazia (1996) and Rosemary Rodd (1990).

[18] See Duncan (2000) for a brief review of need-based theories.

[19] Evidence of Plato's homestatic model of well-being can be found throughout the dialogues. See, for example, the theory of action in the *Gorgias* and the account of pleasure in Bk. 10 of the *Republic* and in the *Philebus*.

Aristotle defines the good life for humans as "a life of activities that exercise well-developed psychic powers (excellences)."[20] The psyche is the initial capacity that organisms have to engage in the activities that define them as living things.[21] Some of these are activities of sentience. An excellence is the ability to engage in an activity relatively successfully. An activity is pleasurable just in so far as we are able to do it with relative ease. Pleasure just is this sort of unimpeded activity.[22] The goodness of a life is measured by the number and perhaps variety of enjoyable activities it contains. One life is richer than another along two dimensions. The more capacities an animal has to engage in enjoyable activities, the richer its type of life is, and the more opportunities that a life of a particular type has to engage in enjoyable activities, the richer its individual life is.

Promoting the welfare of an animal on this model consists in providing it with more opportunities to engage in enjoyable activities. The types of consciousness that are required are of two sorts. One type consists in the ability to engage in particular types of activities. The other kind consists in the ability to find these activities enjoyable. An animal can be said to be choosing its life just in so far as it takes advantage of the opportunities accorded to it.[23]

Animal welfare advocates ought to argue that psychological well-being should not be thought of as a state of mind but a set of opportunities to live an adequately rich life. Which opportunities are research animals capable of taking advantage of and which of those should be provided to them are important questions. The need to answer the first question legitimizes a certain amount of the research undertaken by nonhuman primate psychological well-being promotion researchers. Although it may make some sense to look at what is called "species-typical behavior" that is exhibited in non-captive environments as a starting point, it is a mistake to assume that these activities reflect a fixed species nature and thus a limit to what activities can be enjoyed.[24]

We do not need to develop an animal liberation ethics, because regulators have been assigned the task of protecting the interests of "clients." Institutional Review

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[20] *Nichomachean Ethics* 1098a16ff.

[21] *De anima* 412b5ff. Aristotle's version of "psychological well-being" connects abilities (second potentialities – *aretai*) with opportunities to exercise them. "Well-being" would refer to well-developed psychic capacities, but "welfare" to the exercise of these capacities. Using Nussbaum's terminology (2004), we could say that exercising these capacities enables the animal to flourish.

[22] Aristotle, *Nichomachean Ethics* 1153a13ff. Duncan (2000), who seems to advocate a pleasure conception of welfare, still makes the mistake of equating pleasure with a feeling or emotion, thus a state of consciousness.

[23] Preference testing as it if often done has serious limitations, since it typically presents the animal with a very limited range of choices.

[24] The *telos* theory of Benson and Rollin (2004) and others seems to imply that animals have a fixed nature and that we need only to consider species-typical behavior. These behaviors can be discovered by observing animals in their "natural environments," it is thought. I'm not clear how we should take "natural" unless it means something like "self-selected." Nussbaum distinguishes between extracting norms for non-human animals and for humans. In the latter case, they must be based on the individual, but in the former on the species (1984, p. 310).

Boards are required to ensure that humans used in research are not exploited in the sense that they must give informed consent to their participation in the project. Animals held in captivity, whether they have been domesticated or not, do not have this choice, so their wardens must exercise it for them. The minimal standard that should be employed is that the exchange of services between users (managers) and animals (labor) be nonoppressive. In short, are the costs paid by the laborer not in excess of the benefits derived by the laborer?[25] In the context of regulation, promoting the psychological well-being of nonhuman primates means ensuring that this minimal standard is followed. How much more can be negotiated depends on the political power of the animal liberation movement.

Misframing certain questions about animal welfare can place illegitimate limitations on how animal welfare can be promoted. Both philosophers and primatologists have contributed to this misframing: philosophers by focusing on the role of consciousness in animal ethics and primatologists in treating psychological well-being as a state of mind. The misframing shifts the burden of proof to animal welfare advocates to defend their conception of animal welfare. Whether the misframing is the result of genuine confusion or the deliberate attempt to manage the animal welfare discourse is another issue.

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[25] I have argued for this position in Chapter 5 and also in my “The muddled middle: the search for ethical principles to regulate the use of animals in research.” *Between the Species*, Winter-Spring, 1996, pp. 19–33.

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Chapter 7
Conclusion

The material we have covered in this first part can be said to represent the "animal welfare" movement (Jasper and Nelkin, 1992, p. 8) as distinguished from the "animal liberation" movement. Some "welfarist" are more "progressive" than others, if we use as the criterion for "more progressive" the claim that current practices need to be radically reformed, but if suitably reformed, then using animal in research should be acceptable. But most welfarists, at least the ones we have been considering. seem to share certain beliefs: (1) that good science requires that the welfare of its animal models be considered; (2) that only experts are in a position to judge what counts as animal welfare and the degree to which a particular animal is in the appropriate welfare condition or what would be needed to get it into that condition; (3) welfare experts must be scientifically trained, and it is this training that qualifies them as welfare experts. What is problematic about these beliefs, as numerous critics have pointed out, is that the alleged experts are either the same people that use animals in research or that are employed by institutions who have a major financial interest in using animals for research. It is also problematic that the alleged experts have the sort of training that would enable them to be good judges of welfare.

Another problem with these beliefs is that they tend to confuse what Sumner calls things that have prudential value with the condition that gives them this value. Someone is well off to the extent that they are justifiably satisfied with their life. Different people have different criteria for what counts as a good life, though generally, there are certain conditions that contribute to the goodness of their life, such as good health, access to adequate housing, education, etc. These things are said to have prudential value to that person. As Sumner points out, it is reasonable to generalize that members of a certain species share a list of these things. Most of the experts mentioned above appear to not understand this distinction and equate welfare with things that standardly have prudential value: e.g., good health, adequate caging, access to food and water, good sanitation. Veterinarians, who are often the legally recognized experts in animal welfare, tend to equate welfare with health, for example.

As we have seen in the last three chapters, the 1985 animal welfare act gives legal recognition to this set of welfarist beliefs. It does this by preserving the autonomy of users to judge their own practices as experts, and while the institution of IACUCs seems to monitor this autonomy, it is largely the judgment of peers that prevails,

R.P. Haynes, *Animal Welfare: Competing Conceptions and Their Ethical Implications*,
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since most IACUCs are made up of animal users. I have suggested in Chapter 5 that an “outside” member might serve to question the biases of the user members of the committees, and that properly constituted committees should be modeled on IRBs and their counterparts in institutions or settings where others are called upon to judge what is in the interests of someone who is not currently in a state to make this judgment for themselves. Two sets of beliefs seem to stand in the way of this happening. One is the limited set of welfare criteria that science peers on these committees are inclined to use. The other is the criterion usually appealed to in judging whether a proposed animal use is acceptable. A use is acceptable if the benefits of the research to the public outweigh the costs to the animals.[1] The criterion should be whether the benefits to the animal being used outweigh the costs to that animal. Only under such conditions are we justified in constructing consent.

An especially interesting example of the confusion of things having prudential value with being well-off is the problem that scientist and regulators had in trying to figure out just what sort of condition psychological well-being was. How do we define it, identify it, and measure it. From the literature that was examined in the last chapter, we can see that the science community was torn between identifying psychological well-being with good mental health (the health approach to welfare), or thinking of it as some mysterious state of mind that is especially hard to identify, since we cannot look into the minds of animals. My own view is that someone is psychologically (mentally) well off to the extent that they have both the capabilities and the opportunities to lead a life that they would consider to be a rich one.

In the material we have covered in Part I, there is little mention of a “science of animal welfare,” even though there is the shared belief that scientists are the best judge of animal welfare. It is primarily in connection with farm/food animals that the idea of a science of animal welfare emerged, and this was mainly in Great Britain. The “science of food animal welfare” will be the topic we shall turn to in Part II.

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[1] As I mentioned in Chapter 5, I have attended several IACUC workshops and conferences where this criterion is given semi-official recognition.

Part II
The Emergence of the Science of Food Animal Welfare Mandated by the Brambell Commission Report

Chapter 8
Introduction

In Part II, I will focus on the emergence of the science of food animal welfare mandated by the Brambell Commission Report, the various conceptions of animal welfare developed or assumed by (food) animal welfare scientists and their co-philosophers, the accounts they give of their "value assumptions" and the ethical concerns to which they are related, and how these accounts function to justify what I call the on-going appropriation of the concept of animal welfare. Since the body of animal welfare science literature is extensive, I will select several reflective representatives of this movement for this examination of value assumptions.

In 1964, Ruth Harrison published her book *Animal Machines*, which produced such a stir in the UK that the Brambell Committee was formed to report on the state of animal welfare in the use of animals in the UK. The Brambell Committee's report (1965) said, "Welfare is a wide term that embraces both the physical and mental well-being of the animal. Any attempt to evaluate welfare, therefore, must take into account the scientific evidence available concerning the feelings of animals that can be derived from their structure and functions and also their behavior" (Duncan, 1981). The report was taken as a mandate for animal scientists to undertake a study of animal welfare, and self-styled animal welfare scientists tend to trace their origins to this mandate.

Partly in response to the Brambell Report (BC), the RSPCA in 1972 created scientific advisory committees on farm, laboratory, and wild animal welfare (Ryder, 1998, pp. 54–55). The creation of these committees was the second major source for the development of the science of animal welfare. The efforts of these committees and the research funding that they gave to scientists "helped to trigger a new field of scientific study" (Ryder, 1998, p. 55). In the 1980s, the RSPCA "established its own in-house scientific departments" (Ryder, 1998, p. 55), and began publishing its own *Science Review* in 1991. Harrison herself provides an update on efforts to apply the report's findings (Harrison, 1977, 1993), and she notes the emphasis given by scientists and others to the feature of the BC report that emphasized the importance of more research, and how this was used as an excuse for further delays in proposing regulations to implement the report's findings.

Concern for developing scientific techniques for the assessment of animal welfare has had a number of sources, some of which I have already mentioned in Part I. What I intend to do in Part II, however, is to focus on efforts by certain representative members of the farm animal welfare science community to reflect on their enterprise

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when they address several interrelated questions: (1) What aspects of a farm animal's life can be said to affect its quality of life or its welfare? (2) In regard to particular species of farm animals as well as specific individuals of those species, how can we assess the effects of particular production systems on the welfare of these animals using scientifically objectively valid techniques? (3) What level of welfare are production systems ethically required to maintain? (4) What are the "value assumptions" of the various scientists who attempt to theorize about how to answer these questions? The third question is often formulated in terms of what the larger public deems to be ethically acceptable, but disciplinary assumptions frequently have had the effect of prescribing what the public ought to find acceptable. An example of this effect in regard to the use and care of laboratory animals can be seen in ACLAM's description: "an organization of board certified veterinary medical specialists who are experts in the humane, proper, and safe care and use of laboratory animals."[1] Here humane is the ethical concept and its criteria are largely medical. Other prescriptions are embedded in the scientific ideology of various disciplines.[2] For example, ethologists tend to focus on genetically determined behavior and see welfare in terms of the freedom to engage in it, and the measure of frustration caused by the lack of freedom as levels of corticosteroids, a supposed indicators of stress, or stereotypical behavior (behavior that is not goal directed or species typical).

Joy Mench, in a 1998 article assessing the progress made by farm animal welfare scientists since the mandate issued by the Brambell Committee Report, identifies a number of conceptual constraints that have inhibited the work of welfare scientists. Her article may serve us here by providing a useful overview of these constraints and by offering what might seem to be a more liberatory set of goals for the science. According to Mench's account, in Great Britain, the 1965 Brambell Committee Report reflected a public concern for the suffering, pain, and frustration of animals kept in intensive production systems that Ruth Harrison's book *Animal Machines* documented, but it also laid the conceptual foundations for future research on animal welfare. It did this, according to Mench, by stressing "suffering as the primary consideration in evaluating the welfare of animals in intensive confinement systems" and by asserting that "animals have behavioral 'urges'; that is, behaviors that they need to perform to ensure their welfare and that they are frustrated under conditions of confinement." Mench reviews the efforts to measure welfare on these "minimalist criteria, and then proposes an expanded version of welfare. In her review, she identifies five problems with focusing on the identification and minimization of pain and suffering. (1) Developing and adopting new housing systems has proven to be slow. (2) Long-term welfare has not proven easy to evaluate. (3) Behavioral and physiological measures both have important limitations, may be inconsistent with each other, and can be difficult to interpret because their expression is influenced by many complex factors, including individual predispositions (Mason and Mendl, 1993; Rushen and de Passillé, 1992). (4) There seems to be no clear way to establish a cutoff point below which welfare is "bad" (Mendl, 1991). (5) Ethical and scientific questions about welfare are strongly intertwined, perhaps inextricably so.[3] Mench then proposes that farm animal welfare scientists need to make an ethical leap and formulate a broader operational definition of animal welfare that incorporates the general goals identified by Fraser (1993): a high level of biological functioning, freedom from suffering, and positive experiences. Here is why: Just as the concept of human welfare has broadened with the reduction of pain to include positive states (cites Myers and Diener, 1995; Tannenbaum, 1991), so has society begun to extend it to animals. The extension should include other criteria beside the absence of suffering as morally relevant, such as the possession of desire, which includes not just needs but wants and wishes; intentions, purposes, or goals; the ability to reason; and self-awareness. Animal science, Mench claims, has only focused on needs (desires), but these other questions have only been the focus of comparative psychology and cognitive ethology. Quality of experience informs not only decisions about whether animals should be used at all, but also how they should be used. Mench cites Duncan and Petherick (1991) for examples of the ways in which studies of cognition can influence the assessment of welfare in farm animals. Mench argues that new approaches to the study of animal welfare could serve a heuristic function because a minimalist conception of welfare can cause potentially important areas of research to be neglected, such as what animals find pleasurable and what fitness consequences are associated with performing behaviors. However, one problem with studying pleasure is that it may be hard to measure because there are other sources than pleasure centers in the brain, etc. Also participants may misinform us about what is pleasurable, and behaviors like tail-wagging may be mistaken as signs of pleasure. Mench then suggests that all that is needed for a quality of life definition is the relative preponderance of positive vs negative feelings during the animal's lifetime. So we can approach the assessment of quality of life of an animals by starting with important elements that have been identified as contributing to human life (Csikszentmihalyi, 1988): a sense of control, meaningful social relationships, challenge and active engagement, and the ability to fulfill one's goals. These have all received some attention in welfare science, but most of the focus has been on fear, frustration, or stress and little on which other aspects of sociality (play, affiliation, syncronicity of behavior, mutual grooming) might confer welfare benefits (Mench, 1993; Wiepkema et al., 1993). And the factors that give animals a sense of control are largely unknown (Nicol, 1994).

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[1] See Charles C. Middleton (2002, p. 30). "ACLAM was founded in 1957 to encourage education, training, and research in laboratory animal medicine; establish standards of training and experience for veterinarians professionally concerned with the care and health of laboratory animals; and recognize qualified persons in laboratory animal medicine by certification and examination." Originally called American Board of Laboratory Animal Medicine, it changed its name to ACLAM in 1961. ACLAM is "an organization of board certified veterinary medical specialists who are experts in the humane, proper, and safe care and use of laboratory animals."

See also web site at *www.aclam.org* and my account of ACLAM in Chapter 2.

By contrast, see the formation in 1966 of the Society for Veterinary Ethology, which later became the International Society for Applied Ethology, and the creation of the Farm Animal Welfare Council (FAWC) in 1979. It was FAWC that set out the statement of the "five freedoms."

[2] See Rollin, *The Unheeded Cry*, especially Chapters 4 and 5.

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[3] The focus on suffering, Mench argues, was no doubt influenced by Singer's (1975) book – animals can suffer, and its influence can be seen in Dawkins *Animal Suffering* (1980).

She then reviews different attempts to define suffering (Rowan, 1988), such as aversive effects caused by physical insult (Morton et al., 1990), and cites the expansion of the idea of suffering by Duncan and Dawkins (1983) to include feelings, and the AVMA (1987) report linking it to emotional responses, usually associated with pain and distress, the latter caused by failure to adapt. She also cites Broom and Johnson (1993), Dawkins (1988, 1990), and Cassell (1982). All of these accounts raise more questions than they answer (chronic boredom? Wemelsfelder, 1993). Moberg (1996) said that biological costs associated with prolonged stress are the best measure of suffering, and that perception of the stressor as a threat is necessary for the stress response.

Sandøe and Simonsen (1992), Mench notes, point out that there has been a tendency to define welfare in minimalist terms to gain agreement about basic principles, so it is equated with absence of suffering, so behaviors have to be linked to suffering, and the link has been the thwarting of behavioral needs. What these are and how can they be identified is problematic? Are they based on internal motivation? Jensen and Toates (1993) show that internal and external motivation interact in complex ways, so it is fruitless to develop a catalogue of needs and non-needs that will apply in all circumstances. But the problem is equating absence of suffering with welfare. All of these experiences need to be taken into account when evaluating the effects of particular production systems on welfare, Mench claims, citing Hurnik (1988).

Although Mench's analysis seems to open the way for more liberatory goals for a suitably reformed animal welfare science, it is still in danger of legitimating killing animals for food so long as in their lives there is a preponderance of positive over negative feelings ("affect") (p. 97), so her conceptualization of welfare seems to fall into the "feelings" school supported by Duncan and others (see below). In what follows, I will try to provide some flavor of the critical discourse within the animal welfare science community by picking out several representative sets of reflections about the goals, methodologies, and proper conceptualizations within the community. To the extent that these sets of reflections actually do represent the critical discourse within the community, we will then be in a position to assess my concern about appropriation. For the purposes of this book, therefore, I will look primarily at the relevant works of Rollin (Chapter 9), Duncan (Chapter 10) Fraser (Chapter 11), Appleby and Sandøe (Chapter 12), and Nordenfelt and Nussbaum (Chapter 13), since they include, explicitly or implicitly, arguments that seem to support the continued exploitative use of farm animals at the same time that they argue for more humane treatment.

The Classification of Theories of Welfare

It is conventional to divide these theories into subjective, objective, and mixed theories (see, e.g., Sumner and Nordenfelt, 2006),[4] however, recall that Sumner makes an important distinction that is worth keeping in mind here as we progress with our critique of the above views. Sumner distinguished between a theory of welfare and an account of what sorts of things are standardly valuable to a particular species, such as good health, access to resources, and relative degrees of freedom. These items are said to have prudential value to the beings in question – they contribute in important ways to the good life of the standard member of a species, but they might be of less importance to individual members who autonomously choose what will make up their own good life. Recall that Sumner divides theories into objective and subjective. Objective accounts tend to list things that are standardly of prudential value and claim that anyone possessing these is well-off (ought to be happy?). See Nussbaum and Sen (1993) for an example of such a theory. A number of theories put forth by animal welfare scientists seem to be "objective" in this sense, at least according to some of their classifiers, though the issue of classification as a "theory of welfare" is somewhat confused by the overriding question for scientists of what about animal welfare is amenable to scientific study. Sumner also classifies the versions of subjectivist theories of welfare that he rejects as *hedonistic theories* and *preference satisfaction theories*. These two types of theories seem to make an appearance when some scientists talk about studying animal feelings in order to minimize bad feelings (pain) and maximize good feelings (pleasures) (see Mensch above), and when they talk about finding out about when these feelings occur by studying what animals want by using *preference tests*. Again, the issue is clouded as to whether these are being proposed as theories of welfare or simply as ways of finding out about what animals feel and want by using scientifically testable methods, or, of assessing current systems. Of relevance to this distinction are the goals of animal welfare scientists. Is their primary goal to urge reforms that have a reasonable chance of being found acceptable by the industry and by regulators, or is their goal also to justify a suitably reformed set of practices as ethical.

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[4] Duncan and Fraser (1997) and others categorize the "schools" with the animal welfare science community as (1) biological functioning based, (2) feeling based, and (3) nature based. Rollin seems to fit into the third school.

Reformists vs. Reformism

In the book's introduction, I made a distinction between reformists$_1$ and reformists$_{2,}$ who, I said, were guilty of reformism. I made this distinction to make clear what I consider the proper grounds for criticizing "welfarists" who seem to argue that suitably reformed practices are ethically justified. Of course, by "suitably reformed practices" we are including raising animals who will be slaughtered for food rather than allowed to live out a life span that is normal for their species. A reformist guilty of *reformism* makes the slide from restricting critiques of existing practices to reforms that are more likely to be found acceptable and thus have a chance of succeeding, to then claiming that such reforms would justify the animal use under question. As I have previously mentioned, two strategies are used to justify this slide – the fiction of a domestic contract and the view that death is not a harm for the animals in question. I shall examine these strategies in Part III. I shall begin in the next chapter with Bernard Rollin, a philosopher who has pioneered in raising question about morality and animal welfare, and who also seems guilty of making this slide.

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Chapter 9
Rollin's Theory of Animal Welfare and Its Ethical Implications

Rollin's Telos Theory and the Contract and Custodian Models

Bernard E. Rollin has written several books on animal welfare and our moral obligation to respect it when using animals for research or for food related activities.[1] Several themes run through these works. (1) Scientific agnosticism about non-human animal mentation is unjustified. (2) There is an emerging social ethics that increasingly sees nonhuman animals as having rights and this ethics can be given philosophical justification based on new discoveries in animal ethology. (3) Non-human animals have a *telos* or "nature" and the freedom to act in accord with this nature is an essential component of an animal's welfare. (4) The emerging social ethics in the US has not been transferred from a concern about companion animals and animals used in research to farm animals in intensive production systems because the public has not become fully aware of these conditions and how they affect the animals subjected to them. (5) When the public does become aware that current intensive systems have replaced the husbandry systems of extensive agriculture, it will insist on regulations unless the industry begins to self-regulate (this point seems to be addressed largely to the industry). (6) The treatment of food animals in traditional husbandry systems is ethically warranted because of an implicit contract between the farmer and the animals, a contract in which both benefited equally, hence the contract model for animal use.

In his earliest work, *Animal Rights and Human Morality* (1981), Rollin argues that non-human animals have a moral right to have their interests considered and they have a moral right to life. In subsequent works, the right to life is not mentioned. Rollin argues that animals should be admitted to the moral arena because they have needs and interests, and these should not be limited to merely pleasure and pain. What constitutes an animal's life is its set of genetically encoded needs whose frustration and satisfaction matter to the animal and are experienced not only as pleasure and pain, but frustration, anxiety, malaise, listlessness, boredom, and anger.

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[1] See Rollin (1981, 1995, 1998, 1999). See also Benson and Rollin (eds.) (2004). Rollin is Professor of Philosophy at Colorado State University and also holds an appointment in the College of Veterinary Medicine and Biomedical Sciences.

R.P. Haynes, *Animal Welfare: Competing Conceptions and Their Ethical Implications*,

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These latter are indications of unmet needs and a need that comes into consciousness is an interest.[2] Rollin uses the Aristotelian notion of a *telos* to express the nature of an animal's life. Its *telos* is the set of functions that constitute its life. What these functions and the needs they generate are can be found out by observations, and it is the role of ethology, the study of animal behavior, to discover them. According to Rollin, in his early work, animals have a moral right to their life and to a certain quality of life when being used by humans. The right to life itself becomes an issue when there are conflicts between humans and animals, such as when a pest threatens to cause property damage or discomfort or injury to a human. Rollin's main thesis here is that an animal's right to life should be respected in the same way that a human's right to life should be respected, and can be defeated only in self-defense or the defense of others. However, animals can be used as long as their interests are respected – never treated merely as a means to an end.

Almost in passing, Rollin introduces a custodian model of our relationship with animals that we "own" or control. In answering the objection that such animals would have no life at all were it not for us (we have bred them), and so we have a right to kill them if we choose, Rollin draws an analogy with parents, who should, on this model, be able to kill their children if they wish (p. 49). In a later section, when discussing our relationship to pets, using the dog as an example, Rollin introduces a "social contract" model of this relationship (p. 154 ff). "The dog in its current form is essentially dependent upon man for its physical existence, behavioral needs, and for fulfillment of its social nature. Man, in turn, is dependent on the dog and on other pets …" So it is "hard to imagine a more vivid and pervasive example of a social contract, an agreement in nature and action, than that obtaining between humans and dogs." In subsequent works, Rollin applies this model to animals used in agriculture.

But when the issue is later raised about the use of animals in research, Rollin introduces a utilitarian standard as one that, given how we presently are or think, it is unlikely that humans will give up the benefits that they may derive from using animals in research in certain contexts. So, while we should apply the same standard that we apply to humans, this is merely a regulative ideal, and it is counterproductive to seek to have this ideal realized in our current society. What we can work for is the improvement in the lot of animal use. This caveat seems to set the tone for his later work, which he describes as a "middle position" about animals rights. This "middle position" is somewhat typical of those working in the animal welfare movement, and it seems to characterize each of the representatives we will consider below. What is typically ambiguous about this middle position, however, is that it waivers between arguing that working for reform, as opposed to abolition, is strategically more effective for improving the lot of animals used exploitatively (ideally we should eliminate such uses), and arguing that appropriately reformed exploitative practices are ethically acceptable (*reformism*). In the literature that we are examining, there seems to be two ways of managing this ambiguity. One way is to argue that death itself is not a harm. The other way is to argue that, although death is a harm, it is a fair price for animals to pay if they have been given proper care up to the point of their death (the "contract" model).

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[2] Rollin does not say whether there are other interests besides having needs met, though his wording in *The Unheeeded Cry* suggests that there are. See quotation below from p. 203.

In classifying Rollin's position as belonging to the nature school (animals of the same species have genetically determined natures and their welfare is determined by what sorts of behaviors these natures prescribe), we might expect Rollin to argue that what is needed is scientific research that investigates what is standardly instrumentally valuable to an animal that has a certain species nature. Instead, perhaps influenced by the wording of the Brambell Committee report (animals have urges that they need to satisfy or they will suffer from frustration if they don't), Rollin focuses on a genetically determined needs model of nature. Rollin's *telos* model is clearly based on an ethological model of genetically determined behavior, and it has been subjected to criticism by animal scientists working with broader science models of behavior (see the criticisms mentioned in Chapter 8 by Mench). Even if we accept the "natures" model, we could still argue that while "natures" may be relatively fixed, interests are not. For example, it is in my interest to have at least some of my wants satisfied, even when these wants are not determined by needs. I may find that exercising certain capacities under certain conditions is enjoyable, and I may also develop new capacities by learning to do things that I previously could not do. Certainly, it is in my interest to live as enjoyable a life as possible so long as it does not interfere with the satisfaction of my fixed needs. To speak the language of Aristotle, living well is exercising those capacities that define the sort of life we have. But these capacities are not fixed in the way that Rollin's account seems to presuppose – they are not capacities that are defined or determined simply or exclusively by our genetic code, for they involve not merely physical maturity but often the development of skills. Although Rollin might reply that, of course, we need to develop skills *in order* to meet our needs, we would reply that we are also capable of developing skills that enable us to do more than meet our needs, skills that enable us to increase the range of the enjoyable activities that we can engage in. I assume that this is as true for nonhuman animals as it is for human animals. And of course, many things that humans seem to need, they need because of their socialization. This is an important consideration in evaluating whether the human use of nonhuman animals is morally justified. Rollin's criterion as to whether it is justified seems to be that if the animal's needs are met (or if the user does not prevent the animal from satisfying its genetically determined needs), then the use is justified. But if left to its own choices, an animal may choose to live a richer life than the mere satisfaction of its needs. The moral question is whether the animal, in some sense or other, consents or ought to consent to the particular use. In other words, does the use respect the autonomy of the animal?

The *telos* model is repeated in Rollin's subsequent works, and the contract model is extended to animals used in research and for food. In *The Unheeded Cry*, a work largely devoted to a critique of the positivistic behaviorism of animal behavioral psychologists who appear to deny "animal mentation," Rollin again appears to reduce animal welfare to the *telos* theory. For example, Rollin says,

> In my view, standards of care, husbandry, and use of all laboratory animal should be based on what makes an animal *happy,* not merely on avoiding pain and distress. Happiness is the theoretical notion which best captures what we are after, both in wanting to avoid noxious experiences for the animal and in wanting to maximize its well-being. It is plausible to suggest that happiness resides in the satisfaction of the unique set of needs and interests, physical and psychological, which make up what I have called the *telos*, or nature of the animal in question (p. 203). Each animal has a nature which is genetically and environmentally constrained, from which flow certain interests and needs, whose fulfillment or lack of it *matter* to the animal.

In the afterward to the expanded edition published in 1998, Rollin refers back to his 1995 *Farm Animal Welfare. Social, Bioethical, and Research Issues* and to the "social contract" between farm animals and their owners that was for the mutual good of both (p. 284). It was in the interest of the animals because they were provided a better life than they would have had in the wild. Harm to the animal was harm to its human owner, etc. Also, Rollin talks about the emergence of a new social ethic that critiques the loss of this social contract, which is a major theme of *Farm Animal Welfare*, where Rollins defends his middle position against abolitionist critics. But it is not clear whether his defense is based on the claim that middle positions always prevail, and so it is the most effective way to make improvements, or whether it is based on the claim that current social ethics only asks for a middle position. He gives smaller lip service in *Farm Animal Welfare* to the role of philosophical ethics in making the current consensus ethics more coherent or in drawing out their implications, but when he lists what sorts of rights animals should have and what sort they don't need, he doesn't even mention the right to life. He also talks about how the new social ethics is similar to the more traditional husbandry ethics and the win/win contract that traditionally existed between farmer and animal.[3] Again, he does not mention the fact that food animals usually live pretty short lives. He suggests that life for an animal under extensive conditions is better than life in the wild, but again doesn't mention the duration of the life.

In numerous places, Rollin mentions the needs criterion for welfare, and frequently uses the word happiness, and in several places talks about the goal of the new ethics to be reducing (or eliminating) suffering and increasing happiness.

In regard to the science of animal welfare, Rollin devotes Chapter 2 of *Farm Animal Welfare* to talking about *welfare research* (and scientific ideology) and in subsequent chapters seems to see several roles for welfare research. One role would be to justify the claim that animals have "mentation," thus have needs and interests and a range of emotions. This role appears more in the background. The second role is to discover what an animal's nature is and thus what needs and interests it has, species by species. But the role that is most prominent is to find ways to make confinement more congruent with an animal's welfare, given the economic constraints of production.

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[3] For a challenge to the win/win contract idea, see the description that Patterson (2002) gives of the way humans have treated their livestock throughout time. His account suggests that brutality has been a standard way of treating farm and work animals.

In a more recent work, the introductory ethics chapter of *The Well-Being of Farm Animals. Challenges and Solutions* (2004), Rollin gives the same analysis of his *telos* theory (that for an animal to have adequate welfare requires that it be in a position to actualize its biological and psychological nature and it not be subjected to prolonged noxious mental states, such as boredom, fear anxiety, fear, social isolation, and so on) and its ethical implications, based on an emerging social animal rights ethics. And while he refers again to the social contract of earlier forms of extensive farming, he adds here that merely managing animals extensively is no guarantee that their welfare is being protected. The ideal system (of the past), he says, involved both putting animals in the condition for which they were evolved and helping them when they needed it. The small family farm was more the ideal, where the farmer bonded with his animals. Animal friendly systems today can be profitable (sows raised in Quonset huts, etc.). One barrier to creating welfare-compatible systems, Rollin argues, is the scientific assumption that science is value-free. Another scientific assumption is that consciousness cannot be scientifically studied. While these assumptions were understandable, they are wrong. Science does makes value judgments, and assumes subjectivity when it seeks observable data, Rollin claims. So the scientific study of animal welfare must involve value judgments. "Feeling well" must be an essential part of an animal's well-being (or happiness), as it must be for humans. But animal scientists, Rollin says, with the exception of Dawkins and Duncan, have dismissed animal consciousness. They have substituted stress or its lack for the "subjective feeling of happiness or unhappiness," in spite of the fact that people like Mason (1971) and Weiss (1972) have shown that anticipation of stress can help reduce it, so cognition plays a role in how much stress an animal experiences. Rollin also cites Kilgour (1978), who showed that anticipating a new environment caused more stress in cattle than an electric shock. And he cites Hemsworth (1998), who showed that being treated well will improve an animal's reproductive success and Nerein et al. (1980), who showed that rabbits treated with TLC resisted disease better. In spite of traditional scientific attitudes toward studying these mental states, "creative scientists have given us operational discussions and definitions of noxious mental states in animals; e.g., Wemelsfelder (1990, 1993) for boredom and Markowitz (1981) for how to relieve it, Rollin claims. We must, Rollin argues, develop systems that allow animals "to live, in balance, happy lives, or at least live free from pain and suffering." We need new systems that "allow us to satisfy an animal's basic interests, constitutive of its telos." We can discover what the *telos* of a particular species is by studying it in the wild, and Rollin cites some ethological studies to see how animals live in the wild and studies on how new systems can be designed (e.g., Wood-Gush and Stolba's work with a pig park, 1981).

Rollin's conception of animal welfare and his account of the moral obligation of animal caretakers to promote it has several flaws, some of which I have noted above. One major flaw is its apparent commitment to what could be called a form of *genetic essentialism*. Rollin's version of genetic essentialism seems committed to several propositions: (1) an animal's interests are genetically determined;

(2) what these interests are can be determined by studying animal behavior in a natural environment; and (3) the interests of an individual animal are the same as the interests of other individuals of that same species. Various objections to these assumptions could and have been raised.[4]

His account of the moral obligations that animal caretakers have for their wards is also best supported by these assumptions. If we assume that domesticated animals chose domestication because they expect(ed) to receive better care than they would receive in the "wild," and life in the wild is fairly short, then the short life that most food animals are limited to is no worse than life in the wild.[5]

Rollin does not address two important questions: (1) were animals that evolved through breeding programs evolved through consideration of their interests. (2) Isn't it part of an animal's nature to want to live as long as possible?

Conclusion

Rollin seems to waiver between being a reformist and subscribing to reformism. By appealing to our current social ethics by which we should judge ethically acceptable use of animals, Rollins seems to ignore the appeal to a more philosophically based ethics. In his 1981 book, Rollins says that while we should apply the same standard that we apply to humans, this is merely a regulative ideal, and it is counterproductive to seek to have this ideal realized in our current society. Thus, in his subsequent writings, Rollin instead appeals to current social ethics as providing our norms for judging what is an appropriate use of animals. On the one hand, his appeal to the custodial model (we do not have the right to kill our wards), suggests that he is merely a reformist. On the other hand, his use of the contract model suggests that he is subscribes to reformism. An apparent resolution to what appears to be a wavering between being a reformist and subscribing to reformism can be found in a 2005 article, where he argues that we are justified in giving moral primacy to those with whom we enjoy relationships (*philia*), companion animals. Our custodial obligations to our companion animals (pets) should provide us with an ideal model for the future evolution of animals ethics. This *ideal model* reminds us of his 1981 claim that we should apply the same standard that we apply to humans, but that this is merely a regulative ideal, and that it is counterproductive to seek to have this ideal realized in our current society. But this regulative ideal has some basis for evolving into a new social ethic for animals, once the public becomes more aware of where there food comes from. Once we see that there are no relevant differences between cows and dogs, for example, then we will find it hard to apply different standards to how we treat them. In the end, Rollins sees an evolution to this extended family of animals that is analogous to the way in which our current ethics has evolved from a tribe-family ethics to a more universalistic one (p. 121).

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[4] My guess is that Rollin's primary concern has been to criticize behaviorists' skepticism about animal mentation (see *The Unheeded Cry*) and he saw ethologists such as Griffin and Dawkins as providing good evidence to support his position. Another reason for making these assumptions is that they seem to support the "minimalist" demands made in the Brambell Committee report, and these demands reflect the current "social ethics" in regard to animals. They also fit nicely with the "Five Freedoms" movement (see Farm Animal Welfare Council, 1982, 1983, 1984, 1985).

[5] See Part III for a critique of the contract model.

The battle within the animal welfare science community to include subjectivity, a battle that may have limited Rollin's conception of welfare, seems to have had similar effects on the development of Ian Duncan's efforts to incorporate subjectivity into an account of animal welfare that integrated feelings with more traditional views. Since Duncan provides a good literature review of the various "schools of thought" of scientists concerned about animal welfare, it will be useful for us to take a look at his account of these schools and to examine critically his own position, so Duncan's views are the subject of the next chapter.

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Chapter 10
Duncan and the Inclusion of Subjectivity

Introduction

I have singled out Ian Duncan's critique of his predecessor's view about animal welfare because his writing over a 30 year period shows a considerable amount of reflection about what animal welfare scientists should be studying and how they ought to conduct their studies and because his critique remains unclear about two important questions that seem typical of the animal welfare science literature: (1) Do animal welfare scientists need to provide an adequate conceptualization of what welfare is in order to study it; and (2) When scientists study animal welfare, what value assumptions are they making? The lack of clarity in regard to the first question appears to lead Duncan astray because he fails to distinguish clearly between developing a theory of welfare and discovering what sorts of things are standardly of prudential value to the species under investigation. The lack of clarity in regard to the second question leads to a confusion between assumptions about what is of value to the animals being studied and assumptions about what level of welfare users owe their animals. Some of this confusion, I suspect, is due to Duncan's focus on disagreeing with scientists who deny animal mentation, a focus he seems to share with Rollin. So in claiming that he is defending the "feelings school" of animal welfare, Duncan seems to be arguing against scientists who, for methodological reasons, deny that scientists can study animal feelings. Recall that Rollin calls this restrictive view about what science can study "their ideology," a set of views that rest on value assumptions about what counts as good science. No doubt, some of these value biases have come out of the disciplinary matrix in which scientists were trained. For example, veterinarians are trained to focus on animal health, so if they are charged with monitoring the welfare of their patients, it is not surprising that they think of welfare in terms of health.

Ian Duncan has published nearly 50 articles between 1970 and 2004 on the topic of animal welfare. He is a Professor of Animal Welfare in the Department of Animal and Poultry Sciences at the University of Guelph, Ontario. In a number of these articles and chapters, Duncan reflects on the goals and assumptions of animal welfare scientists and he identifies some rival views about what are the important elements in "defining" animal welfare. He appears to think of himself as advancing

R.P. Haynes, *Animal Welfare: Competing Conceptions and Their Ethical Implications*,
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the "feelings" school of welfare and in many of his writings seems to have the same agenda as Rollin, to rely on ethological studies to challenge the views of behaviorists that deny (or avoid talking about) animal subjectivity. He also agrees with Rollin that animal scientists make value judgments in their work because conclusions about welfare are based on value judgment as well as on knowledge. However, he raises a number of questions that seem to be criticisms of Rollin's *telos* view about animal natures and the relationship between expressing these natures and welfare. In what follows, I will summarize Duncan's criticisms of what he considers to be rival accounts of animal welfare and his defense of his own "feelings" account, and some of the problems one faces in assessing welfare that his own account faces.[1]

Duncan's Classification of Schools of Thought About Animal Welfare

It is difficult to tell whether it is appropriate to call the different schools that Duncan describes "competing conceptions of animal welfare" or merely different views about what aspects scientists can investigate regarding what is of prudential value to various species of animal. Duncan does not seem to be clear about this distinction.

In defending his own position,[2] Duncan starts off with a brief history of previous positions. When scientists started investigating animal welfare in the 1960s and 1970s, they thought it was a reflection of how psychologically stressed the animal was – not stressed equal good welfare, badly stressed equal poor welfare (he cites Bareham, 1972; Bryant, 1972; Wood-Gush et al., 1975; Freeman, 1978). In summary, whatever welfare was, it was a physiological process, and most likely those connected to stress.[3] However, a division of opinion among scientists arose in the 1990s as the result of some apparent contradictions. Some animals had the outward signs of good welfare but had subclinical diseases. Sows had good health indicators but they looked distressed and engaged in stereotypical behaviors. Some males apparently wanted to engage in sex, but looked distressed after they did. So the question arose, is health or psychological functioning the most important, and from this debate two schools emerged: the biological functioning school and the "feelings" school. The feelings school was largely encouraged by the Brambell Committee Report.

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[1] Since the various accounts he gives of rival schools, his own position, and assessment issues range over a 25 year period, I will, for the most part, rely on his more recent works.

[2] In Duncan, I. J. H. (2004), "A Concept of Welfare Based on Feelings." In G. J. Benson and B. E. Rollin (eds.), *The Well-Being of Farm Animals. Challenges and Solutions*, pp. 85–101.

[3] Duncan cites a 1983 article that he co-authored with Dawkins for a survey of the many definitions of animal welfare that scientists had come up with.

The Biological Functioning school believes that it is the absence of a stress response that is the indication of good welfare (Broom, 1986; Wiepkema, 1987; Barnett and Hemsworth, 1990; Broom and Johnson, 1993) or, with the animal being able to cope (Broom and Johnson, 1993) and with the satisfaction of the animal's biological needs (Curtis, 1987; Hurnik and Lehman, 1988). Duncan has a number of criticisms of this school. Broom and Johnson say that stress is an environmental effect on an individual that overtakes its control system and reduces its ability to cope and if serious enough will lead to its death. But this seems to imply that an animal's welfare is preserved so long as stress does not produce death. Another problem is that no measure of fitness is given. Also, sometimes stress is produced when an animal engages in rewarding activity. And the concept of coping is unclear. Broom and Johnson seem to reduce welfare to lack of suffering. Hurnik and Lehman identify a hierarchy of needs: life-sustaining needs, health sustaining needs, and comfort sustaining needs. Duncan's criticism of this view is that in some cases health may be in jeopardy but there is no suffering (deprivation of oxygen may result in death but the feeling is pleasant), and if no suffering, then no deprivation of welfare.

According to the feeling school**,** welfare has to do with the absence of negative feelings (suffering) and to some extent the presence of positive feelings (pleasure). Duncan then traces this idea from the Brambell report up to the view that feelings were the only thing that matters, The argument for this position is that higher animals satisfy their needs using cognition and consciousness (feelings) as opposed to mere stimulus-response, which the lower animals use. Duncan traces the recognition that animals have feelings (they include emotions) from Descartes, through Hume and Bentham and Darwin. (Notice that this view seems to reduce feelings to their role in survival rather as ends in themselves.) It was behaviorism that exorcised feeling.

To show that his view of welfare has "descriptive adequacy," Duncan gives some ordinary language indications that health and welfare are separate (we can be in good health but unhappy, or in poor health but have a positive attitude and not suffer). He goes on to say that sentience is when welfare begins. In claiming this, he uses the word "happy" a couple of times here, treating it as a kind of feeling. But in saying what feelings are, Duncan seems to reduce feelings to need satisfaction – even pleasure.[4] First, Duncan distinguishes sensory input from what we are aware of or pay attention to. These are feelings. Other terminology can be used, such as "emotions." But an emotion includes more than what we are aware of. One term could be "subjective affective states." "Sentient" means capable of feeling. Pleasure and suffering or pain are the keywords.

Then Duncan cites Fraser and Duncan (1998) for the claim that the role of suffering is to motivate animals to satisfy their immediate needs while the role of pleasure is to motivate animals to take advantage of opportunity situations where performance might carry some long-term benefit. Then Duncan presents us with a table that lists the primary needs or deficiencies and then correlates with each a secondary feeling. Included in the feeling list are “feeling hungry,” “feeling frightened,” and “feeling lonely.” At the end of the list are play-fighting, grooming, and bathing, all leading to feelings of pleasure. On the need side of the table, there are learning social graces, maintaining social bonds, and keeping plumage in good order. Duncan then says that the biological school identifies welfare with the left side of the table and the feeling school with the right side, even though there is usually a correlation between the two sides. Then he gives some exceptions – breeding stock sows that want to eat to where it is unhealthy and are uncomfortable if not allowed to do this. There is no solution to the welfare problem of such animals.[5] The problem with the feeling school, Duncan says, is that feelings are difficult to measure. In humans we can communicate them and some scientists are studying animal communications to find this out. Duncan cites Seyfarth et al. (1980) and their study of monkey’s alarm cries, and Weary et al. (1998) and Taylor and Weary (2000), who have studied piglet vocalizations to assess severity of pain during castration. There are also preference tests (see the following section on this) that do not tell us what an animal is feeling but whether what they are feeling is positive or negative. Duncan then cites studies that give cautions about using preference tests. Motivation testing (operant conditioning) can overcome some of these, because it measures the strength of the preference. Fraser and Matthews (1997) point out some of the pitfalls of motivation testing. Time budgeting can also measure the importance of the various items in an animal’s repertoire. With limited time, the more luxurious items drop out in favor of the more essential activities. Duncan also lists a number of studies used to assess pain. He then notes that some have criticized past studies because they focus exclusively on negative feeling and not enough on positive ones. Since pleasure adds to the quality of human life, why should it not do so also in an animal’s life? Here he cites Mensch (1998). Duncan thinks that pleasure is important because it is needed to counterbalance the suffering that cannot be completely eliminated.

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[4] There are a number of problems with identifying happiness with feelings, which Sumner points out. Of course, if we could not feel, we could hardly be said to live well, but living well is not reducible to having a bunch of good feelings. And just what are good feelings, anyway? If I enjoy an activity, it does not mean that I am experiencing a bunch of good feelings.

In conclusion, Duncan looks forward to the day when pleasure is investigated more thoroughly and it can then be said not only that farm animals do not suffer (or seldom suffer), but also that they are contented or happy.

In a 1997 chapter in the Appleby and Hughes *Animal Welfare* collection,[6] Duncan lists three broad approaches to the scientific conceptualization of animal welfare: (i) “Feelings-based” approaches define animal welfare in terms of the subjective experiences of animals [feelings, emotions, and emphasize the reduction of negative feelings (suffering, pain, etc.) and the promotion of positive ones

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[5] Of course there is. Let them forage on low carb food. Then they can be doing something to relieve their hunger, but not overeating, a solution that Duncan seems to recognize.

[6] Duncan, I. J. H. and D. Fraser (1997), “Understanding Animal Welfare.” In M. C. Appleby and B. O. Hughes (eds.), *Animal Welfare*, Ch. 2, pp. 19–31.

(comfort, pleasure, etc.)]. Relevant research methods include measures of animals' preferences and motivations, plus behavioral and psychological indicators of emotional states. There is widespread agreement that subjective experience such as suffering and contentment are important for an animal's welfare, but much work will be needed to produce scientifically based understanding of such experiences. (ii) "Functioning-based approaches" define animal welfare in terms of the normal or satisfactory biological functioning of the animal. Many relevant (and sometimes conflicting) measures are used, based on health, longevity, reproductive success, and disturbances to behavior and physiology. Although many of these variables are straightforward to quantify, there is much debate about the link between functioning based measures and animal welfare. (iii) A third set of approaches call for animals to be raised in a manner that suits the "nature" of the species or such that the animal performs its full repertoire of behavior. Performance of the full behavioral repertoire has been widely criticized as a criterion for welfare, but more useful variants of this idea may yet be developed. Proponents of the third approach, the Natural environment and natural repertoire of behavior, include Webster et al. (1986), Rollin (1992, 1993) and Kiley-Worthington (1989). Rollin was deliberately vague about what he meant by *telos* and he called upon ethologists to flesh out the idea by the study of behavior (1992). In terms of research, one approach is to study the behavior of animals in a wild environment and then compare the behavior in a captive environment. Veasey et al. (1996) did this with giraffes and compared their behavior to that in four zoos, but observed differences did not allow for clear conclusions about welfare. See also Stolba and Wood-Gush (1984) and Schouten (1986) for pigs. This approach is an older view, but it was challenged by Dawkins (1980) and Poole (1996), who argued that some natural behavior was due to aversive features of a harsh environment and animals in nature led a harsh life. Although the idea is intuitively appealing, Duncan says, one must be careful in arriving at animal natures, and he gives examples of sea gulls that have adapted well voluntarily to inland sites (dumps, etc). Others argue that if viewed conditionally, it might be useful. Pigs have evolved to behave in certain ways in certain conditions, and although wallowing might not be missed, not huddling when cold would be.

Duncan concludes his analysis by saying that different conceptions used by scientists reflect different value positions on what constitutes a good or satisfactory quality of life for animals. For example, feelings-based conceptions correspond to the wide-spread view that our treatment of animals should not cause undue suffering nor unduly deprive animals of comfort and contentment. But much work is needed for a scientific understanding of the subjective experience of animals. Functioning-based approaches correspond to the view that animals should be allowed to thrive and be healthy and it provides some widely accepted criteria for poor welfare. But consensus is lacking about how less extreme alterations in functioning relate to quality of life (reduced rate of growth and more stress indicators). The third conception remains to be given a satisfactory biological interpretation, and one interpretation – that they should be able to perform the full repertoire of behavior – often fails to agree with other conceptions. So when there are disagreements, more complete information may help to form a consensus, but science cannot provide a purely objective assessment because conclusions about welfare are based on value-judgments as well as knowledge. Duncan does not propose any method for resolving disagreements about value judgments.[7]

Duncan's Criticisms of Preference Testing

In earlier works, Duncan reviews some of the criticisms of preference tests as methods of assessing what an animal is feeling and he also raises problems with what he calls the "needs" school, to which he assigns Rollin, among others.

In a 1978 Letter to the Editor of *Applied Animal Ethology*,[8] Duncan mentions three criticisms of the claims of Dawkins and Hughes that an animal can be asked which situations are distressful to it by finding out whether these situations act as positive or negative re-enforcers. (1) When given the choice of two alternatives, the conclusions can only be relative. (2) There is evidence that (lower) animals prefer short term to long term rewards, even when the long term rewards are greater. A laying hen will go into a trap nest to lay an egg even though trapping may result is a deprivation of food and water. (Apparently the need to drop the egg is greater than the concern to avoid food and water deprivation.) (3) Choices between alternatives are not consistently made in studies. Nevertheless, Duncan thinks that preference tests do have a role to play in assessing animal welfare. But caution should be used, keeping the following points in mind: domestic animals do differ from wild animals; motivation should be assessed by a battery of independent measures; short and long term welfare may not be compatible and domestic animals may not be able to weigh the total consequences of a choice; and fixed action patterns may interfere with conditioned responses.[9]

Duncan's analysis reveals several confusions. One confusion, which I have already pointed out, is the distinction between competing conceptions of welfare and competing views about what sorts of things are standardly instrumentally valuable to different types of animals, given the different "natures" they have. This confusion may be endemic to the discourse of the animal welfare science community and its divisions into several competing schools. It is not clear whether these schools are to be understood as general theories of welfare, comparable to the theories that Sumner identifies, and should, therefore, also apply to humans, or whether they are simply different views about the sorts of things that a science of animal welfare can discover about what types of things are standardly of prudential value to different animals of different types. The same confusion appears in Duncan's analysis of the role of "feelings" in welfare. It is unclear whether Duncan is arguing for a subjective conception of welfare that is hedonic (see Sumner's criticisms of hedonism), or a subjective conception that is appraisive (one's welfare is determined by how one *feels* about one's life), or simply maintaining that good and bad feelings (pains and pleasures) are standardly beneficial or harmful to most animals' lives.

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[7] Interestingly, in Duncan, I. J. H. (1993), "The Science of Animal Well-Being." *Animal Welfare Information Center Newsletter* Jan–Mar, 4(1): 1, 4–7, Duncan says that once we know the facts, society has to make the ethical decisions. This is not a problem if a confinement systems leads to a great deal of distress, but it is a problem when there are both costs and benefits involved. He then concludes that only humans have an idea of their own mortality, and if he thought that animals had such an idea as well, he would become an instant vegetarian. This comments seems to put Duncan on the edge between being a reformist and committing to reformism. If death is not an evil unless one is able to conceptualize it and if non-human animals cannot do this, then there is no harm in killing them for food. But if animals can conceptualize their own death, then killing animals for food is morally objectionable.

[8] I. J. H. Duncan (1978), "The Interpretation of Preference Tests in Animal Behavior." *Appl. Anim. Ethol.* 4: 197–200.

[9] In Duncan, I. J. H. "Animal Rights—Animal Welfare: A Scientific Assessment." *Poultry Science* 60(1981): 489–499, Duncan also mentions the role of operant conditioning as a supplement to preferences tests to see how hard a bird works to get a certain result. For more on preference testing, see my account of Fraser below. Also, compare Duncan's reservations with those given by Sumner in his criticisms of preference satisfaction theories of welfare (Sumner, pp. 113–122).

Value Judgments

It is also unclear just what role value judgments are supposed to play in an animal scientist's views about the welfare of the animals they study. I can see three roles that value judgments might be thought to play in these contexts (aside from judgments about which methodologies scientists should use to warrant their findings): One role are the judgments that an investigator needs to make about what is of prudential value to the subject of study. But these seem to be judgments about what is of prudential value to the subject rather than judgments about what the subject should prudentially value (unless, of course, the scientist is adopting the perspective of someone evaluating the authenticity of how the subject in fact seems to appraise their current life). The second role, which is the one that Duncan seems to have in mind, is an ethically related one: What level of welfare are animal users ethically required to provide. While scientists may be motivated to study "animal welfare" because they feel that they have an ethical imperative to improve it, or because they see themselves as responding to widely held social concerns, or, because of these concerns, funding is now available, one would think that scientists should not be letting these ethical judgments interfere with their efforts to find out what is standardly beneficial and harmful to animals of the type they are studying. However, a third role of value judgments does seem appropriate. In order to find out what is standardly instrumentally beneficial and harmful to a subject of a particular type, a scientist must put themselves in the role of an *authenticator* of the subjects actual goals and ask to what extent these goals have been chosen from a reasonably available range of goals. By "reasonably available" I mean something like this. One could imagine that a subject (including a human subject), if given a series of scenarios of the types of lives that they might choose to live, would choose a life that required the availability of instrumental goods that are never or rarely available given the condition of the world as it is or is ever likely to become.

So to find out what is truly in the interest of the subject in question, we would have to narrow the scenarios to those that can reasonably be expected in the best of worlds likely to become available through ethically motivated efforts to improve it. Applying this to the scientist's problem, the scientist, as an authenticator, must try to find out what choices the scientist's subject would make under existing conditions, but what choices they might make under a range of improved conditions and the degree to which these choices are authentically made. Since the range over which these expanded choice opportunities could be considerable, scientists trying to perform the authenticator role must, for practical reasons, narrow the range by choosing those that seem most reasonable, and such choices would require value judgments of several sorts, some of which are ethical.

Because Duncan is concerned with advancing the role of subjectivity in animal welfare and the possibility of studying it scientifically, he seems to emphasize the importance of a methodology amenable to finding out what sort of lives animals subjects want, or would choose if given the chance. Hence, the importance of *preference tests* and the vulnerability of such tests to the authenticity criticism.

Duncan's account, then, is vulnerable in the ways mentioned above. Fraser's account, which we will discuss next, appears to address in more detail both the vulnerabilities of narrow preference testing and the role of value judgments in animal welfare science.

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Chapter 11
Fraser on Animal Welfare, Science, and Ethics

David Fraser is Professor of Animal Welfare, Department of Animal Science and Centre For Applied Ethics, University of British Columbia at Vancouver. In several of his articles, he discusses the value assumptions made by the proponents of the various schools of thought about what constitutes an animal's welfare and seems to suggest a position that tries to integrate these schools. Their different approaches to studying animal welfare, he suggests, are due to the fact that they see themselves as responding to different ethical concerns. He makes a plea for more transparency about what these ethical concerns are and a more open dialogue between ethicists and animal welfare scientists. To facilitate this dialogue, what is needed, he argues, are ethical theories that are more complex than the single principle theories of animal liberationists like Singer and Regan. Since he joins Duncan in including feelings, and hence, subjectivity, as having value in an animal's life, he too is concerned with the problem of studying what animals feel, but he also seems sensitive to some of the problems in using preference testing to find out what an animal is feeling when they are exposed to different environments. In what follows, I will first look at his criticisms of preference testing, then his position about the role played by the value assumptions of different animal welfare scientists as they respond to different ethical concerns, and, finally, his criticism of what he calls Type I ethical theories.

Revealed Preference and Preference Testing

In Chapter 5 of *Welfare, Happiness, and Ethics*, Sumner (1996) criticizes revealed preference theory as it is developed in economics. Sumner calls this the weakest version of the desire theory of welfare. Economics as a science wanted objective measures, so it claimed that preferences were revealed in the choices we make, then went on to develop a theory of utility (Pigou etc.). In economic welfare theory, how much I want something is an index of how satisfied I will be when I get it. Pigou (1932) was aware of the shortcomings of his equation of welfare with economic welfare, but many of his successors were not. They simply defined utility, and thus welfare, in terms of preference as revealed in choice.

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To criticize this theory, Sumner formulates it thusly: x makes me better off than y just in case I choose x in a market in which y is also available. This is arrived at in two steps. (1) x makes me better off than y just in case I want x more than y. (2) I want x more than y just in case I choose x when I could have chosen y. This formula restricts us to our actual choices, a limitation imposed by the behaviorism of revealed preference theory. The problem with this is that although making an actual choice of one alternative over another presupposes the availability of both, having a preference between them does not. If my preferences are going to connect with my welfare, then all of them should count, not just those I have had the opportunity to reveal in choice. If we try to correct this by expanding the account to include hypothetical choices, then it ceases to be a theory of revealed preferences. The only reason that the first version works is because of the ambiguity of "preference." In a choice situation, I could be said to prefer the one I choose over the ones I did not choose, but in listing my preferences, I might well include what is also not available to me to choose. But it is only in this attitudinal (see Sumner, p. 120), not the behavioral sense, of preference that we can link it to welfare. So what we are left with from this theory is the attitudinal sense of preference and desire.

Fraser is a critical proponent of preference testing to determine which of several options are the most pleasing or least distressing to the animal being tested and thus contribute the most to its welfare. It is a way for discovering what an animal is feeling. In a 1997 contribution to a collection on animal welfare, the authors (Fraser and Matthews) say that fundamental to the use of preference tests is the assumption that animals make choices that are in their own best interests and that a knowledge of animal preferences will help improve its welfare. They then review the use of preference tests and try to answer the question, "Under what conditions do the choices made by an animal serve as a reliable guide to its welfare?" Part of the answer to this question is that in order to ensure that experiments adequately reflect animals' preferences, it is important both to ask suitably complex questions and avoid spurious results. For example. research on pig's preferences for straw, show that it depends on what other environmental conditions obtain. One proposal is to study over a longer period of time and another is to study individual differences (cites Nicol, 1986).

To avoid spurious results, it is important to determine what other conditions (might) affect the choice. For example, one study showed pigs preferring narrow stalls and another showed them preferring wider stalls. But in the narrower stalls, pigs could leave by walking straight through but in the wider stalls they had to back out. In other studies it was shown that as the animals gain experience with a situation, their preferences may change.

It is also important to assess the strength of an animal's preferences. Commodity pricing has been used to see how much an animal will pay for a certain result. Also motivational testing has been done (the authors cite Rushen (1986) and Rutter and Duncan (1991) for criticisms of these tests).

Another important task for preference testers is to clarify the link between preference and long term welfare. For example, two main views about welfare criteria (feeling and biological functioning) may come into conflict when an animal may choose what feels good without having the capacity to see its long term consequences (monkeys who prefer cocaine to eating). If an animal had evolved in environments where they have the capacity to do this, then this capacity may no longer work when put into unfamiliar environments because they had not evolved the capacity to detect harmful things of this new type.

To ensure better reliability, according to Fraser and Matthews, preferences and motivation testing needs to develop in four directions. (1) Instead of simply comparing two environments, testers need to identify the primary factors influencing the preference, for instance by using a multi-variable approach or a serial factor approach. (2) Preference research needs to be integrated with other measures. (3) A knowledge of the natural history of the animal would enable researchers to better identify variables in advance (those in the natural environment). (4) Instead of designing environments catering to public perceptions, design them using preference testing knowledge.

The authors conclude with the following evaluation of preference and motivation testing as a way of assessing animal welfare. (1) Preference and motivation testing provide useful information of the reactions of animals to methods of handling and housing and to other features of their environment. (2) The environmental features preferred by animals are likely to vary with its age and experience, its reproductive state, its on-going behavior and other variables. (3) To draw inferences about an animal's welfare from preference research, the strength of the animal's preferences needs to be known. Various methods to assess preference and motivation strength have been developed. (4) Great care is needed over the methods of preference and motivation testing. Particular test procedures or response measures may have unexpected impacts on the preferences animals show. Research must also avoid confounding preferences and familiarity. (5) Animals' preferences, as revealed by preference tests, often identify environmental features that will promote their welfare. However, the link between preferences and welfare may break down if the choices offered in preference tests fall outside the animals' sensory, cognitive, and affective capacities or if animals are required to choose between short- and long-term benefits. I would add another concern, namely, that the range of choices offered is unduly limited and thus not indicative of what is really the best situation for the animals in question.

Value Assumptions

These acknowledged limitations on preference testing and the claim that it needs to be integrated with other measures raises an important question about what weight scientists should give to the various criteria of welfare that they select to measure. In several articles, Fraser seems to be addressing this question when he talks about the interplay between ethics and science.[1]

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[1] See, for example the following: Fraser (2000), Fraser (2003), Fraser and Preece (2004), Fraser and Weary (2004), and Fraser et al. (1997).

In a 2004 article ("Quality of life for farm animals: Linking science, ethics, and animal welfare"), Fraser and Weary express the links by saying that while there are some advantages in using a scientific approach (avoids using naïve or purely anthropomorphic ideas when assessing animal welfare), there are also problems and areas of confusion. One problem is that scientists may tend to focus on the more easily measured conditions (health and even negative affective states) and identify animal welfare exclusively with these. The focus here on *assessing welfare* seems directed to the evaluation of specific housing conditions and their economically feasible alternatives.

Another problem, the authors continue, is the illusion that because there is a science of animal welfare, scientists will be able to measure welfare in a purely objective manner, but animal welfare is a socially constructed concept with important ethical implications. Scientists are likely to narrow the concept to fit the theories, as Stafleu et al. (1996) argue. Animal welfare is an evaluative concept, like product quality and building safety. Our decisions of what to study involve value-laden judgments about what we believe to be desirable and important for the quality of life of animals. The authors provide a chart showing the link between scientific approaches to the study of animal welfare and the ethical concerns they relate to. Here the ethical concerns are listed as Natural Living, (good) Affective States, and (good) Biological Functioning.

When the authors say that animal welfare is a socially constructed concept, they mean that it has a non-scientific meaning in ordinary social life, much like "bread quality" does. Since the scientific study of animal welfare has been mandated by the social concerns raised by, for example, humanitarians and consumers, who object to the way animals are raised under "factory farm" conditions because these conditions cause suffering and do not allow for a high quality life, and/or because these conditions do not permit an animal to express behavior that is natural to it, scientists must be sensitive to these concerns. In other words, they are not doing *pure* science, anymore than food scientists who are investigating what sorts of ingredients make high quality bread are simply trying to explain the causes of natural phenomena. There are also other social concerns, namely those raised by veterinarians working with producers. Each of these social concerns provide *value frameworks* for animal welfare scientists, since different scientists may be responding to different social concerns, and it is these different value frameworks that explain, the authors suggest, why there are different schools of thought or conceptions of animal welfare among animal welfare scientists. To some extent, these schools of thought are related to the disciplinary background of the scientist. The authors see a way to integrate these schools of thought, or at least explain how they are related, by making a distinction between claims about what is *instrumentally valuable* to the animal and what is *inherently valuable*. If you are working within the good biological functioning framework, then being able to reproduce, for example, is inherently valuable to the animal, while avoiding undue stress or suffering may be only instrumentally valuable if it interferes with the ability to reproduce. On the other hand, if you are responding to the humanitarian value framework, which is concerned with the suffering and poor affective quality of life of farm animals raised under certain conditions, then avoiding distressful feelings and having pleasant ones is inherently valuable, while good health, in so far as it helps alleviate suffering and contributes to pleasure, in only instrumentally valuable.

In a 2003 article, Fraser, explains the ways in which value judgments function in scientific assessments of welfare ("Assessing animal welfare at the farm and group level: the interplay of science and values"). Challenging the view of Broom (1991), who claimed that we could separate an objective assessment of risks from an ethical decision about which risks are acceptable,[2] Fraser cites Tannebaum (1991), Sandøe and Simonsen (1992), and Rollin (1993, 1995), who point out that values intrude into the assessment of animal welfare in fundamental ways. (1) In the value frameworks that scientist bring to animal welfare assessment; (2) in deciding what elements are inherently versus instrumentally important for animal welfare; (3) in deciding what importance to attach to measures that are scientifically respected and can be scored objectively; (4) in cases where data do not provide a definite answer to key empirical questions; and (5) in deciding how to weigh incommensurable variables and the conflicting interests of different animals. I would add here a sixth dimension, which I will also call a "framing assumption." (6) Questions posed by animal welfare scientists about which set of conditions are most conducive to an animal's welfare are normally framed in the larger context that presupposes certain background assumptions about where and for what purposes the animals in question are to be "raised." Given that a pig is going to be raised for food or for producing a maximum number of piglets, what conditions consistent with these purposes will most promote the animal's welfare. These framing assumptions are value assumptions because they presuppose that it is morally acceptable to raise pigs for this purpose. That this is a framing assumption can be seen when the question is raised about which conditions most promote the welfare of *farm* animals, and this ignores the question about whether raising animals to slaughter and eat is ethically acceptable. Fraser, however, does address this question in several articles where he critically discusses current ethical theories about animal welfare.

Ethical Theories

In a 2004 article ("Animal ethics and the scientific study of animals: bridging the 'is' and the 'ought.'"), Fraser and Preece make this claim:

> ....animal ethics has traditionally involved both factual claims, usually about animals' mental states and capacities, and ethical claims about their moral standing. However, even in modern animal ethics the factual claims are often scientifically uninformed, involve broad generalizations about diverse taxonomic groups, and show little agreement about how to resolve the contradictions. Research in cognitive ethology and animal welfare

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[2] Presumably the analogy is that we can identify scientifically what is in the welfare interests of an animal but deciding what level of welfare is acceptable is an ethical question.

> science provides empirical material and a set of emerging methods for testing the plausibility of claims about animal mentation and thus for clarifying the interests and needs of animals. We suggest that progress in animal ethics requires both philosophically informed science to provide an empirically grounded understanding of animals, and scientifically informed philosophy to explore the ethical implications that follow.

Philosophy is needed to explore the ethical implications of our understanding of animals: What is the moral relevance of the capacity to use language? What is our understanding of the nature of other minds? How should we understand such morally significant concepts as desire, suffering, and personhood and under what circumstances can these concepts be rightfully used in discussions of other species? Science is needed to provide a more nuanced, disciplined and empirically grounded understanding of animals as a basis for ethical reflection. It is not clear from the above comments just what role philosophical ethics is supposed to play, but it appears to be limited to questions about the moral status of animals (do animals have moral considerability), and, perhaps, to questions about the ethical obligations that caretakers/caregivers (my distinction) have to their wards given that animals have the preferences that they do (under the conditions under which they are cared for) or given that certain goods are instrumentally or inherently valuable to the animal in question.

While Fraser and Preece appear neutral to which ethical theory is most appropriate, and only make the point that any theory of our ethical obligations to animals must be informed about what animals value, and thus must be scientifically informed, in a 1999 article, Fraser offers arguments against the liberation philosophies of Singer and Regan, assigning them to the humanities, liberal tradition culture of the two cultures that C. P. Snow describes. The science side is occupied by animal welfare scientists. Urging greater communication between the science side and the ethicists, Fraser makes about the same point that he makes in the quoted passage above, but here he adds a critique of Singer and Regan, listing them as belonging to what he calls Type I animal ethicists who employee ethical theories that use only one ethical principle. Appealing to this principle seems to make the work of animal welfare scientists seeking to improve farming conditions appear irrelevant, hence the barrier to communication. Also, Singer's focus on suffering ignores caregiving. Type I ethicists are concerned with justice while scientists are concerned with caregiving. Animal welfare scientists see that there are a number of conflicting principles involved in deciding, for example, how to manage wildlife or preserve endangered species. The single principle philosophers also have no room for valuing the giving of care to animals, which many scientists are concerned with,[3] nor with the community of animals with humans. I think that this criticism of Regan, especially, is valid, since Regan's solution to such problems is to divide the world into human and animal kingdoms, and let each rule their own kingdom. So there is no room left, for example, for the legitimacy of any sort of wildlife management efforts to correct past effects of human practices. Regan's position also does not seem to leave any room for reformists$_1$ working to improve present conditions as a justified focus of energies.

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[3] As I have noted above and shall discuss more below, these concerns might be better described as caretaking rather than care giving concerns.

Another criticism of Type I ethicists is that they focus on intended harm, when much of the harm caused by humans to animals is collateral damage. We need more information about how to avoid unintended harm and ethical positions that enable us to resolves conflicting claims about the victims of unintended harm. Fraser thinks that the ethics of care and communitarian ethical theories are more helpful for deciding these complex issues. One example Fraser gives of collateral damage in an agricultural system that does not use animals is the damage done to mice in fields when machinery is used to plow or harvest products.[4]

Fortunately, Fraser and Preece say, there are now a host of what he calls Type 2 ethicists who formulate their ethical concerns in ways "that are more easily incorporated into scientific discourse." Here is their list of Type 2 ethicists: Midgley (1983, 1986), Lehman (1988), Rollin (1990, 1992, 1993, 1995), Preece and Chamberlain (1993), Thompson (1993), and Donovan and Adams (1996).[5] Although each of these philosophers may give some recognition of the existence of communities of human and other species of animals, it is not clear to me that they are all concerned with addressing the same sort of issues.[6] But I agree with Fraser here that we need ethically to consider the various obligations that humans have toward the different animals (and perhaps bio-communities) that they have relations with, whether these relationships are chosen or unintended. And I also agree with him that animal welfare scientists have much to contribute in their attempts to identify the positive and negative effects on animals that our practices have. My own view about custodial obligations to animal wards requires this sort of information. And I also agree that animal welfare scientists need to broaden their investigation so that they do not narrowly look at simple alternatives practices (narrow or wide stalls), but on larger alternative systems. In deciding what to study, animal welfare scientists tend to make *value assumptions* about what aspects of an animal's life most affect its welfare and these value assumptions need to be made explicit so they can be discussed, a point Fraser makes a number of times. But I do not agree with his rejection of an individual-centered ethical theory, since, as I shall argue later, justice requires equal opportunities for animals to flourish, to use Nussbaum's language (2004). I am also skeptical about a communitarian ethics that places the value of the community over the individuals that make it up.[7]

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[4] See the discussion about this sort of damage by Davis (2003) and Matheny (2003). Matheny defends vegetarianism against Davis's complaint about collateral damage.

[5] In the Donovan and Adams collections, nearly all of the articles talk about how caring and caregiving supports vegetarianism. Only one article talks about relations with animals used in recreation, e.g., horses, and speculates about what is owed the horse she rides and loves when it becomes threatened with injury (Manning, 1996). Nel Noddings's (1984) argument that we do not owe animals any caring because the relationship is not a reciprocal one is repudiated by nearly all of the contributors.

[6] For example, Lehman gives several arguments why vegetarianism is not morally required. These include (1) that we are entitled to protect our food crops from pests, even if they are morally innocent, and if the only way to do this is kill them, then we can also eat their bodies, and (2) if we are in a lifeboat situation where we can only survive if we kill and eat other "innocent animals," then we are entitled to do so. Given the current dependency of many on eating animals, converting to vegetarianism might create unforeseen hunger problems. Furthermore, forage animals can use food that that we cannot eat, nor could we use the land to grow food for ourselves. Singer answers this last problem by arguing that converting to vegetarianism worldwide would have to be a gradual process. See also several articles in the 2004 Sapontzis collection, e.g., Kheel, who says that caring for nonhuman animals must be distinguished from caretaking or stewartship, which invites us to manage nature, an underlying idea behind animal farming and the conservation movement. Midgley (1983) seems to be saying that humans have the ability to form bonds with animals of other species, and have traditionally used this ability to exploit the animals they form bonds with. My impression is that she does not approve of such exploitation. In her address to UFAW (Midgley, 1986), she seems to be reassuring the audience that reformism is OK and there is nothing strange about humans being concerned with other living and even non-living things. Incidentally, what I have elsewhere called *reformism* is not what Midgley means by reformism. She seems to mean achieving a long term goal by gradual reforms. She means the idea that it is worth working on reforming practices even though the reforms are not really adequate to achieve the larger goal of eliminating such practices.

I am also concerned about the risk that Type 2 ethical theories will be used to justify *reformism*[8] rather than efforts to reform existing practices by identifying which ones are more conducive to increasing the quality of life of animals in the way we use them. I will explore in Chapter 16 what I consider to be the important distinction made by Kheel (2004) between caretaking and care giving. I think it is misleading to think of animal welfare scientists as anything more that caretakers, since caretaking is something one does with someone's property. Veterinarians, for example, may provide caretaking services to the animals that they are asked to treat, but it is the animal's owner that is the veterinarian's client, not the animal-patient.

What Fraser's account of animal welfare is lacking is a description of what caregivers/animals custodians owe their wards. Instead, he gives a list of the things that are generally of prudential value to an animal, and while this can provide useful information for animal custodians, the general context that animal welfare scientists, including Fraser, talk about welfare is in terms of assessing the degree of welfare that a particular system affords an animal and how to improve the level of welfare. The assessing welfare approach thus avoids the issue of how much welfare is owed to an animal by their custodians.

The role that these more theoretical "value" assumptions might play in the animal welfare discourse is addressed in greater detail by Appleby and Sandøe. In what follows, I will take a critical look at how they formulate these more theoretical "value assumptions" and the ethical implications they try to draw from the disagreements.

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[7] An example of such an ethic can be found in Lund et al. (2004). I discuss this particular version of a contract theory in Chapter 16. It is also questionable whether many of the ways that humans relate to the animals that they raise for food or work can be thought of a representing a community, which idea suggest shared interests in preserving the relationships.

[8] As I noted above, Midgley (1986) uses *reformism* to mean putting efforts into reforming existing objectionable practices rather than totally eliminating them, whereas I mean by it the view that suitably reformed practices are now unobjectionable.

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Chapter 12

Appleby-Sandøe and the Human Welfare Model[1]

In a paper published in 2002, Appleby and Sandøe set out some of the background assumptions of the philosophers who have contributed to the discussion of animal welfare, such as Singer (1975), Rollin (1981), Regan (1983), Midgley (1983), Frey (1980), Leahy (1991), and Carruthers (1992), in order to help clarify the thinking of those who try to assess animal welfare. Appleby and Sandøe say that while philosophy does not provide a definite answer to the question of what animal welfare is, it does help clarify thinking and this clarification is important for animal welfare research because research can be improved by making hidden assumptions explicit and by reflecting on those assumptions. To be able to assess animal welfare, then, scientists must, at least implicitly, take a definition of animal welfare as their starting point, so in order to make scientists as well-informed as possible in the definition they choose, the authors will explain the strengths and weakness of the different approaches to defining well-being for humans, and then apply these to definitions of animal welfare that they most correspond to.[2]

Competing Definitions of Welfare

They start by noting that the terms "welfare," "well-being," "quality of life," and "self-interest" have roughly the same meaning in discussions of human welfare. They cite Griffin (1986) for a discussion of human well-being, and Sumner (1992)

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[1] I am combining their views because they have co-authored a number of papers.

[2] I do not think that animal welfare scientists need to have a definition or theory of animal welfare in order to determine how to improve conditions of animals currently be raised for food. All that is needed is a list of things that have prudential value for sentient beings, such as good health, comfort, pleasure, avoidance of frustration and pain and fear, etc. Assuming that most sentient beings value these, the role of a scientist would be to determine what conditions produce or are conducive to these goods and which produce things that a sentient being standardly wants to avoid. For example, what causes pigs to feel content and what causes them discomfort, distress, or fear, etc. A theory of welfare would be needed to determine which and how many of these goods a custodian or user is ethically obligated to provide their wards or their "employees."

R.P. Haynes, *Animal Welfare: Competing Conceptions and Their Ethical Implications*,

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for welfare, and Sandøe (1999) and Parfit (1984) for "quality of life." Parfit is concerned with "what makes a person's life go well" and he calls "theories about self-interest" answers to questions about what would be best for someone or make their life go as well as possible for them. Then they draw from Kagan (1992) a long quote that sets out three main approachs to the question "what is well-being?" Theory one holds that well-being consists in having the right mental states (which may or may not be the same as hedonism). Theory two focuses on desire or preference satisfaction. If what one wants obtains, whether or not one knows that it does, then one is well-off (some say this only of fully informed preferences). Theory three says that a person is well-off if they as a matter of fact have certain objective goods, whether or not they realize that they have them. The authors cite Hurka (1993) as an example of an objective theory that uses perfectionism as the criterion. Perfectionism gives an account of the "intrinsically desirable life." They then relate these accounts of human welfare to accounts of animal welfare, but distinguish between two questions: "How should well-being or welfare be defined?" and "how should it be assessed?" The authors are going to mainly address the first, but suggest its relevance to the second. Then in Table 1 on p. 295 they present a chart drawn from Fraser et al. (1997) and Parfit (1984). On the left is Parfit's account of human well-being theories and on the left Fraser et al.'s account of theories of animal welfare. The authors have Parfit listing three views: hedonism, desire fulfilment, and the objective list theory (the authors add Perfectionism to this box, though Parfit, as far as I can tell, does not use this term). Hedonism and desire fulfilment correspond to Fraser et al.'s general category of Feeling, which is subdivided into pleasure-suffering and preference satisfaction. Preferences corresponds to desire fulfilment (item two on the human side). Corresponding to the objective list view (with perfectionism thrown in) are two views on the animal side: Functioning and Natural living. Then they cite Jensen and Sandøe (1997) in relating the concept of feelings in animals to hedonism and desire fulfilment in animals, but say Fraser et al.'s view is closer to hedonism (an animal should feel well by being free from negative states and by experiencing normal pleasures). But sometimes preferences are wrongly included in the feeling side, citing Duncan and Fraser (1997, p. 22). Preference testing is based on the assumption that an animal will choose environments in which they experience more contentment and/or less pain, fear, etc.

So there are three possible views on the subjective nature of animal welfare: (1) it is all about feeling, and preference testing helps to reveal feelings, (2) welfare is about feelings and preferences, and (3) it is all about preference satisfaction.

The authors draw parallels between the debates between Sumner (subjectivist theory) and Kegan (objectivist theory) on the one hand, and Broom (1996) and Duncan (1996) on the other. They cite Duncan and Fraser (1997) for the debate on whether an illness that does not yet effect one's feelings diminishes an animal's welfare [*my comments:* that would depend on how long the animal will live]. Then they relate Hurka to Rollin, who, they say, derive their views from Aristotle.

The authors then proceed to list the standard objections to each of the versions of subjectivist theories and to objectivist theories, and possible replies to these objections and then try to draw out the implications of these criticisms for related theories of animal welfare. It is noteworthy that none of the theories either of human welfare or animal welfare include Sumner's (1996) version of human welfare, so the issue of animal autonomy does not arise except in a passing reference to DeGrazia (1996) and higher primates.[3] However, the authors seem to have a different view about what autonomy is than Sumner does, because they then go on to equate autonomy with desire satisfaction and object that sometimes people do what they prefer to do even if it runs counter to their long term interests.

Appleby and Sandøe conclude that there is no definite answer to what counts as well-being, either for humans or for animals, so scientists must take this into account. Each of the views about human well-being have pros and cons, and the same is true of animal welfare. Their own discussion, they say, parallels the conclusion Fraser et al. (1997) and Duncan and Fraser (1997) (among others) "that a brief definition of animal welfare is not possible."

> Fraser et al. (1997) argue that a scientific conception of animal welfare has to take into account all the value positions expressed in public discussion over the quality of life of animals, and the problems to which these positions relate. Those value positions emphasise animal feelings, functioning and natural living: categories that map approximately, but not precisely, onto those outlined for human well-being. Correspondingly, arguments for and against different approaches to human well-being contribute to understanding of animal welfare but cannot provide definitive answers.
>
> As there is no definitive answer to the question about what well-being is — either for humans or for animals — the approach adopted must depend on the context. A person doing research on well-being must ask: 'What should I mean by well-being in the context of my own research?' The answer to this question may involve both methodological and ethical considerations
>
> (p. 292).[4]

For example, measures focusing on biological, psychological, or social functioning can easily be interpreted in a perfectionist framework. The same is true for measures of expression of one's nature. If the researcher makes the subject rank different outcomes, then this is related to a preference or hedonistic theory. Ethical considerations are also relevant, the authors say, and give the following two examples: A study aimed at improving the conditions of zoo animals will require a different definition[5] of animal welfare than a study aimed at improving the living conditions of intensively reared animals.[6]

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[3] They only mention autonomy as a criticism of objective theories like perfectionism and they cite Sumner (1992, pp. 7–8), but Sumner does not discuss autonomy on these pages and only refers to it implicitly as a criticism of subjective theories, namely that it is important to be sure that when an individual assesses their own life, this assessment is authentic and not the result of an oppressive socialization process.

[4] In illustrating how different measures of well-being lend themselves (more or less) to different notions of well-being, the authors says that if "researchers are mainly focused on registering psychological well-being and distress, their data will be relevant to hedonism-based approaches." For a critique of this hedonistic conception of the "promote psychological well-being of non-human primates requirement of the US 1985 Animal Welfare Act," see my "Do Regulators of Animal Welfare Need to Develop a Theory of Psychological Well-Being?" *Journal of Agricultural and Environmental Ethics* 14, 2(2001): 231–240. A version of this article can be found in Chapter 6 above.

This agnosticism about theories of welfare together with the abbreviated list of candidate theories (Sumner's, 1996 theory is not included) can serve to obscure the ethical issues involved in animal welfare assessments. By not including Sumner's authentic satisfaction requirement, the range of variables to be considered in assessing the extent to which a particular environment compromises a subject's welfare is narrowed considerably, and the ethical implications of this narrowing are to be found in measuring the actual costs to an animal that a particular environment imposes. By arguing that there is no way to decide which theories of welfare are correct, the authors are, in effect, arguing that there is no way of determining the cost that a particular caretaking system imposes on the subject. And that surely has ethical implications. If the focus is on assessing which system does a better job of providing an animal with welfare, but no account of the authentically good life of the animal, then costs can only be measured in terms of how little of the various prudential goods are present in the animal's life, but no norm about how much should be present.

Ethical Questions About Animal Welfare

In Sandøe et al. (2003) ("Farm animal welfare: The interaction of ethical questions and animal welfare science"), the authors try to address this issue about estimating the costs to the animals in increasingly intensive and "efficient" production systems. They do this in the context of urging animal welfare scientists, who are or may be called upon by the public to give input about these costs, to make more transparent the ethical assumptions that lie behind their estimations so that the results of their research will be properly utilized by the public.

The authors start by making a distinction between disagreements about which criteria are relevant for assessing welfare and how much welfare producers owe their animals. So there is implicit here a distinction between questions about what costs a system imposes on its animals and questions about who should, ethically speaking, bear those costs, or how the costs should be distributed between the animals and those using the animals. The authors try to solve the problem I have already pointed out in regard to their agnosticism about theories of welfare by pointing out that although there is disagreement among scientists of what they should be measuring in assessing welfare, it is now widely accepted that if a measure of animal welfare is to be valid, it should combine as many different approaches as possible. However, since animal welfare scientists are doing research mandated by public concern about imposed costs, they should be prepared in conveying their results to the public, to make clear their own views about which costs it is reasonable to impose. I think that the authors' point here makes sense, since we do not usually include among our costs simple expenditures (when I work out, I expend considerable effort, time, and energy, but I do not normally think of these as costs of working out). Since *costs* implies an unwanted loss of some goods, it has a moral overtone. Therefore, when asked to report on what confinement systems cost those confined, and which modifications would benefit those currently paying the costs, scientist cannot help making a judgment about what losses are significant to the one paying them, and the fact that a loss is significant to the one paying it and is imposed gives any report a moral significance.[7] Therefore, in reporting on their finding to the public, scientists must make explicit moral judgments and these moral judgments also must play a role in public deliberations about which systems should be permitted.

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[5] "Definition" seems to be the wrong word to use here. What is different are the limitations placed by the attendant circumstances of the animal's environment.

[6] Since most research within the animal welfare community is funded by interest groups or by departments that fall within the traditional animal science disciplines, this last point is an important *caveat* whose full implications concerning the biases of animal welfare scientists the authors fail to note. The ethical perspectives that provide what I consider the proper context for animal welfare research are not mentioned by the authors in this paper, but the perspective of fairness to the particular use of the type and context of the animals being studied is discussed briefly by the authors in several other works.

Having made this point, the authors go on to identify at least four ethical questions that play a role in public deliberations, and hence should be considered by scientists reporting to the public on their findings when these findings are going to be put to use:

1. What is the baseline standard for morally acceptable animal welfare?
2. What is a good animal life?[8]
3. What farming purposes are legitimate?
4. What kinds of compromise are acceptable in a less-than-perfect world?

In regard to the first question, after discussing some problems with comparing farm animals' conditions in various production systems, the authors raise the question, "what is a fair deal for farm animals?" Then they say that what counts as a fair deal depends on one's basic moral viewpoint about relations between humans and animals and that "there is no objective or neutral point of view from which the baseline can be decided for a morally acceptable treatment of farm animals." If "a decision is to be made about what it takes for farm animal production to give animals morally acceptable conditions, that decision is bound to be relative to a moral point of view." The authors then go on to identify, "for the sake of simplicity," three points of view: the animal rights point of view, an "ethics of care" point of view, and a "utilitarian" point of view, and then evaluate these in terms of how amenable they are to compromise. This last point is important to the authors because they value the "political art of the possible" in seeking improvements to farm animal welfare (question 4 above). The animal rights point of view fails because it only provides a yes or no answer and leaves no room for compromise.[9] The "ethics of care" position "takes as its starting point the notion that keeping animals for production purposes is in principle acceptable. This activity allows for a unique relationship between humans and animals that is of value for both parties.... Therefore a fair deal will involve farm animals being kept under circumstances where people of the farm can sustain a caring attitude to the animals for which they are responsible" (p. 472).

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[7] Let me try to make this point clearer. If we were giving testimony at an OSHA hearing about the costs for workers in the coal mining industry, we would assume that testimony about the fact that miners have to go to work everyday, when they could be doing something more interesting with their time would not be relevant, but information about the health risks of coal mining would be relevant.

[8] If no theory of welfare can be given, how can this question be answered? Sandoe et al. tend to replace this question with what is a fair deal for an animal being raised for food.

As I mentioned in Chapter 11, Kheel (2004) distinguishes between the ethics of care and caretaking or stewardship and warns against feminists taking this version of a care ethics. None of the authors in the Donovan and Adams (1996) collection seem to hold the view that raising animals for food is an acceptable practice and an example of care giving. Sandoe and Appleby seem to confuse an ethic of care with an ethics of caretaking. An ethic of care in the Gilligan tradition is one modeled on family relationships where we are concerned with settling conflicts of interest in ways that are beneficial to the parties involved. An ethic of justice, on the other hand, focuses on settling conflicts by an impartial determination of who is in the right. In this sense, an ethic of justice has winners and losers while an ethic of care finds ways to accommodate all the parties. The two do not need to be mutually exclusive, but can be thought of as complementary.

The utilitarian point of view seeks the right sort of balance between human interests and animals interest and is important in sorting out the answers to question 3.

The basic question about a fair deal also assumes an answer to the second question because it helps identify which tradeoffs are acceptable. For example, if we think that the good life should include both freedom from disease and freedom to explore a wider environment, and see that these two goals are not always compatible (free-roaming animals are more susceptible to acquiring diseases and parasites), then our account of the good life would have to take into account which compromises are important and define the good life in terms of these compromises.

The issue that the authors raise about how to choose among moral points of view from which to judge the fairness of animals systems is an important one, so it is important that the candidates are properly given.[10] I shall discuss this point in more detail below.

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[9] This is an over-simplification of what an "animal rights" perspective has to entail. See, for example, the discussions in Sunstein and Nussbaum (2004).

[10] In an earlier paper, Sandøe et al. (1997) identify four ethical positions about the nature of our duties: utilitarianism, the animal rights view, the species-integrity view, and the agent-centered view. They equate the last view with a form of "virtue ethics." In a more recent work (2004), Appleby et al. argue for a hybrid ethical position that combines elements of rights theory and utilitarianism (see below). See also Sandøe (1999).

The Fairness Issue

The fairness issue is taken up in more detail by Appleby in his 1999 book *What Should We Do About Animal Welfare?* Appleby raises issues of fairness in several contexts. He concludes Chapter 3, for example, by claiming that the welfare of all animals should be considered and the welfare of all species is of equal importance. So for complete fairness there should be equal consideration of similar interests. More complex animals have more complex interests, so they need more complex conditions to achieve similar welfare and more effort to care for them if they are under human responsibility. But, in fact, humans tend to give more consideration to their own interests. Appleby then argues that we can do a better job of caring for animals than we have done, especially farm animals (compare the care that some people give to their pets with the care that is given to farm animals). In the next chapter he raises the question about killing animals in the context of the question, "Is all animal use abusive?" Part of the answer lies in recognizing that animals do usually receive some benefit from our use. Can we make this a fairer exchange, he asks. If we are in control, it is our responsibility to look to both sides.[11] The basic question that must be answered, particularly in the context of farm animals, is whether the life of domesticated animals is a life worth living? If we had not bred them, they would not have existed at all.[12] Appleby concludes that generally, their life is worth living, though it could be made better. One reason for thinking that their life is better than the life of wild animals is their numbers. Domesticated chickens, for example, are the most numerous birds in the world, so life in captivity is more conducive to survival than life in the wild.[13] However, this does not take into consideration the average life span of the wild version domestic animals. Since, cows, for example, have a life worth living, he argues, it is better not to phase out the existence of cows (but increase their welfare where we can).[14]

Appleby then reviews some opinions about whether killing is acceptable? Singer, for example, argues that self-consciousness of the victims makes killing wrong. Another view is that it robs other animals of companions. Regan argues that it deprives an animal of their future, since animals have an interest in continuing to experience life. Appleby's view is that it is perfectly OK to kill animals we are using as long as we have given them a reasonable life (never use them merely as a means) and give them a gentle death.[15] He believes that humane slaughter is possible. But we shouldn't kill apes.

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[11] Appleby tends to dismiss the claim of Coppinger and Smith (1983), that most domesticated animals chose domestication. He says that this might be true of dogs, but he is skeptical that it is true of farm animals. Rollin tends to give more credence to this claim and I will look at it further when I examine the idea of a contract between animal users and the animals they use in Chapter 16.

[12] For a reply to this argument, see Sapontzis (1988, pp. 141 ff.).

[13] Kheel (2004, p. 336) claims that of all animals killed in the wild, only 5 per cent are killed by nonhuman predators.

[14] Although this is not specifically an appeal to the "logic of the larger" argument, it certainly seems to be one of its premises. For a critique of this "logic of the larder" argument, see Matheny and Chan (2005), and Chapter 16 below.

In a more recent work, Appleby et al. (2004) argue for a "hybrid view" about our ethical responsibilities to animals.[16] The "hybrid" view is a compromise between deontological (rights) and utilitarian ethical views, and is advocated (or mentioned), according to the authors, by Midgley (1986), Reiss and Straughan (1996), and Sandøe et al. (1997). Most people subscribe to this hybrid view, thinking that both the consequences of an action and the action itself are of ethical concern. They quote from Sandøe et al. (1997):

> A hybrid view, which is attractive to many people, combines elements from utilitarianism and the animal rights view. One version of this would say that there are certain things that one may not do to animals, no matter how beneficial the consequences, for example causing the animals to experience intense suffering. As long as we abstain from these things, we can, on this view, reason as a utilitarian would do. For example, killing of animals or causing them mild distress or inconvenience may be allowed if sufficiently good consequences follow
>
> (p. 15).

The particular hybrid views mentioned in the above context are all views that lead to the sort of compromises that seem to justify continued but improved use of animals for food, so, although Appleby makes a plea for reforms that have a chance of being acceptable, his fairness arguments seems to be a justification for reformism. What is lacking here are the sorts of hybrid views that are used to defend liberation.[17]

I think that the Sandoe-Appleby account of animal welfare is deficient on the several grounds I have noted above. It confuses definitions of animal welfare with lists of things standardly of prudential value to members of various species, and when it does list the various candidates for a theory of welfare, it fails to list Sumner's account, which I assume to be the correct one. And in listing ethical theories and evaluating their utility, they fail to consider hybrid views like that of

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[15] For a similar view, see Ferré (2001, 2004).

[16] Part C, Chapters 7–10 are devoted to welfare issues (pp. 118–175).

[17] A more complete hybrid view that draws from the four ethical traditions mentioned by the authors and does a better job of integrating them is given by Sapontzis (1987). Sapontzis avoids the problem of arguing for a particular moral theory to support his liberationist thesis by adopting a more "pragmatic" strategy. He introduces this strategy on p. 62 as part of his examination of the claim that only humans are entitled to the moral status of personhood. One way of supporting this claim is to show the role that humanism has played over the centuries in extending moral status to previously excluded humans, thus making the world a morally better place, by arguing that being human is all that is required for having the moral right to equal consideration. Thus, the goal of making moral progress is used by defenders of humanism to defend its principal thesis: being human is both a sufficient and necessary condition for having moral status (or equal moral standing). He calls this attempt to justify humanism a pragmatic, moral justification by basing the humanist principle "on a judgment of how moral rights should be distributed in order to make the world a morally better place. The proper justificatory question then becomes, 'How well does the humanist principle contribute to the progress of morality?'

Saptontzis or DeGrazia. They also seem confused about what an ethic of care is, possibly confusing it with a ethics of caretaking. Finally, they give a faulty analysis of fairness in the context of what animal users owe their animals. I examine Appleby's fair deal arguments in Chapter 16.

In the next chapter, I will look at the more recent work of L. Nordenfelt (2006), who does a comparative analysis of animal and human health and welfare, and finds both the concept of health and welfare essentially similar for animals and humans. Nordenfelt defines welfare as happiness and happiness as satisfaction of wants and preferences and he claims that his own view as similar to the Appleby and Sandoe (2002) view of it as experienced preference satisfaction, but does not seem to share their view that death is not a harm for animals. I will argue that his view is defective to the extent that he treats happiness as an emotion.

I will also look at the claims that Nussbaum makes in applying her capabilities/flourishing view of welfare to nonhuman animals. I will argue that while this "objective" theory of welfare has certain attractive features when applied to nonhuman animals that are our wards, it is defective in not allowing for consideration of the individuality of the animals to whom we are applying it.

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"Perhaps the best we can do in response to this difficulty is to continue to acknowledge the diversity of morality and to evaluate the humanist principle against the general goals of the Christian, Kantian, utilitarian tradition in which the principle has arisen. These goals may be roughly characterized as follows:

- Developing moral character, so that our actions will be based on compassion, respect, courage, and other moral virtues
- Both reducing the suffering in life and otherwise making life more enjoyable and fulfilling
- Insuring that opportunities, good, punishments, and rewards are distributed fairly

Using these criteria for what counts as moral progress, it is clear that humanism is morally superior to feudalism, caste societies, racism, anti-Semitism, sexism, etc. However, as Sapontzis goes on to argue, extending moral rights to nonhuman animals does a better job of making the world a morally better place (pp. 90–110), because (1) liberating animals develops moral character (it makes us more compassionate); (2) it makes the world a happier place; and (3) it makes the world a fairer place because it helps protect the weak and the powerless from oppression.

Also see DeGrazia's (1996) ethical principles reflexive equilibrium approach.

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Chapter 13
Nordenfelt and Nussbaum on Animal Welfare

Nordenfelt has authored an interesting and useful book, identifying various theories of human and animal health and welfare (though less has been written about animal health than human health), and suggesting shortcomings of each theory.[1] This he does in the first two parts of the book, consisting of 21 relatively short chapters. He puts forth his own view in the third part, consisting of two chapters. There is also an Appendix examining the similarities and differences between his own view and Amartya's Sen's theory of functionings and capabilities. In the first two parts of the book, he often compares elements of the views he is examining with his own view, so we get hints of what his own theory is throughout the book.

In the final chapter, Nordenfelt (2006) offers what he calls a "happiness theory of welfare in animals." He says that happiness is an emotion, and a species of welfare of the second order. What he means by this is that happiness "is a consequence of one's reflecting upon one's life. One observes and reflects upon some phenomenon in life and as a result one feels happy about it" (p. 166). He offers this as a kind of preference theory of welfare. If at a particular time the subject gets the large part of what they want, then they are happy. "P is in a complete state of happiness if, and only if, P wants the conditions of life just as he or she finds them" (p. 167).[2] However, being

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[1] For a slightly longer version of this review see Haynes (2008).

[2] That Nordenfelt is confused about what happiness is can be seen in his account of Aristotote's account of *eudaimoniai* in an earlier chapter. Although Norndenfelt waffles on this point, he clearly says that for Aristotle happiness is an activity (p. 25). But before this, he says that for Aristotle happiness is a certain type of active life (p. 24). Then on p. 26 he says, "Strictly speaking, it is only the completed life that can be referred to as happy in the Aristotelian sense. What Aristotle says is that happiness (*eudaimonia*) is a life of activities in accord with virtue … The point here is that *eudaimon* is a judgment we make about a person's life. It is a life that we would expect a person to have if they had a good guardian spirit looking after them. But it is a life filled with pleasure, since pleasure is simply unimpeded activity, that is, activity done with skill or virtue, and it includes tasting done with tongues in good shape, etc. I make this point because later in his own account of happiness, Nordenfelt says that happiness is an emotion. I have trouble accepting this account of happiness, if by "emotion" we mean such things as fear and anger, conditions that besiege us and move us to action. The basic meaning of "happy" is lucky or fortunate. This is evident in the French and German words, and the entomology of happy is the same – what happens to us. Some Greeks thought that living the good life was a matter of good fortune (*eu tyche)*. Aristotle says that it is like a guardian angel were looking out for us.

R.P. Haynes, *Animal Welfare: Competing Conceptions and Their Ethical Implications*,

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happy and feeling happy are different. One has to be aware that one has got what they wanted in order to feel happy. On the way to stating this position, Nordenfelt has made some distinctions between what he calls external and internal welfare. Our environment sets the platform for what we can expect to get and hence what goals we can realistically set for ourselves. To the extent that an environment contributes favorably toward a person's welfare, it can be called a state of external welfare. I suppose this is what we mean when we call a person well-off or "doing well for themselves." By internal welfare, Nordenfelt means those inner conditions that, together with their activities, enable or contribute to achieving goals. Health is one of these.

As a prelude to identifying happiness with welfare, Nordenfelt lists some various "species of welfare." I am not entirely clear why he calls them "species," but he mentions both pleasurable sensations as one species, and feelings as another. Happiness, which Nordenfelt says is an emotion, has a special position among the species of welfare, since it is a consequence of reflecting on one's life and the other species of welfare that make it up. I find this way of talking somewhat puzzling. Why not say that the things that make up the good life have "prudential value?" They are things we are happy about having. He seems to mean by calling pleasurable sensations a species of happiness that these sensations along with the emotion of happiness are all things that make up happiness. If these are things we are happy about having, then the emotion of happiness is also a thing we are happy about having.

At the end of Chapter 22, Nordenfelt takes up some "complications with a preference theory of happiness" (pp. 168–170) that his view shares with the views of Appleby and Sandoe (2002).[3] What if someone is satisfied with their life at time t because they are unaware of other activities that they might come to value were they able to experience them? Subsequently they do become aware and at time t_1 are only happy if these new activities are a part of their life. What should we say about their happiness at time t? "A would at time t prefer the total situation at t_1 to the situation at t, had A been adequately informed about what the total situation at t_1 would be like" (p. 170). The conclusion that Nordenfelt draws from this is that there is only relative happiness. "From a conceptual point of view there is then no absolutely complete happiness." While this view seems similar to the view of Sumner that I endorse, I am not happy with Nordenfelt's solution for several reasons.

1. By choosing the particular example that he does (a young boy raised in the Highlands of Scotland who is happy with his lot because he enjoys much of his life but then discovers he has talent to play the violin and learns this from a musician who moves into the area), Nordenfelt avoids issues about oppressive socialization. This is a different example than the sort that motivates Sumner (1996), for example, to include autonomy as a condition for satisfaction with one's life. Consider people who are oppressively socialized to expect less from their lives than they should, such as women in many parts of the world.

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[3] I don't see Appleby and Sandoe holding such a view in the paper that Nordenfelt cites. In an earlier chapter on preference satisfaction theories of welfare, he cites a 1996 paper of Sandoe to support his claim that Sandoe holds a preference satisfaction theory of welfare.

The life that they envision as possible for themselves has not been freely chosen, and one might well want to say that they ought not settle for such a limited life.

2. If we apply the idea of preference satisfaction to animals raised for food, how can we determine what is a fair range of opportunities to present to them in order to see what conditions they prefer to live under? For the most part, the range of conditions is determined by what seems economically feasible to those raising them. I think that this is the main criticism I would have of the model that Nordenfelt attributes to Sandoe. If we say that food animals are being raised under conditions that they prefer to live under, given our preference testing system, that sounds like we are doing the best for them that they are entitled to expect. Which leads to the third reason for wanting to reject Nordenfelt's solution.
3. If we say, as Nordenfelt does, that conceptually speaking, no one can be absolutely happy and it only makes sense to say that they are relatively happy, relative, that is, to what they have learned to expect out of their lives, then why can we not say that animals living under improved conditions are relatively happy, though they might be even happier were their conditions improved even more. By saying that no one is absolutely happy, and being relatively happy is the most we can expect, doesn't this allow the animal care takers to reply to their critics that their animals are relatively happy with their lives, which is the most that anyone can expect?

Nordenfelt concludes his last chapter with two paragraphs in which he raises the question of the adequacy of his account of human happiness for the purposes of defining animal welfare. His answer seems to be that his explication can serve as an explication of much of animal welfare, but not all of it, since there are other goals of animal care than the animal's happiness. One goal is *sustainable welfare*. When an animal is in poor health, for example, then we must forget the momentary happiness of the sick animal in the interest of returning it to a healthy state. But I don't see this as any different than the case of a sick human who must undergo painful treatments. The other goal is to raise them for food, which will lead to their eventual slaughter.

> The goal of killing animals for food is quite a different goal. It may to some extent be compatible with the goal of animal welfare. Livestock can be kept in a reasonable way, with consideration for their welfare, before being taken to slaughter. But the act of slaughtering is certainly something different. Whatever our ultimate view of the slaughter of animals we must concede that the act of slaughter is the direct opposite of caring for the health and welfare of the animal.

This seems to mean that Nordenfelt does not retreat, as some do, to the position that death for animals is not a harm. Unfortunately, however, Nordenfelt does not take a stand on whether slaughter for the purpose of human consumption is ethically justified. His concluding two sentences are "To balance such goals with the goal of individual animal welfare is, indeed, one of the fundamental issues in animal welfare ethics. But this is the topic of quite a different research project."

Nordenfelt explains more fully what he means by the preference satisfaction theory of welfare that he supports in Chapter 14. Here Nordenfelt first identifies three different ways in which fulfillment of preferences can play a role. (1) In the first way, welfare is defined in terms of fulfillment of preferences: "To say that

A has a high degree of welfare *means* that most of A's preferences have been fulfilled." Here is the second way: (2) "Welfare is assessed via the person's or animal's choices in certain situations. One could say that the person or animal through these choices determines the conditions for its high degree of welfare." The third way, he says, is linked to 2 but has a different sense. (3) "The person (this is hardly possible in the animal case) is given the opportunity to make an evaluative choice with respect to his or her *definition* of welfare." The case he illustrates this with is a person choosing to live like a monk and finding this life satisfactory. This assumes, Nordenfelt notes, that there is no official pronouncement of what type of life people should live to achieve wellbeing. I find nothing puzzling about this example, but why say that this person has given his own meaning to welfare or defined it for himself. In this case, "A contributes to the very definition of welfare." Why not rather say, with Sumner (1996) that welfare just is the fact that one is satisfied with one's life, assuming that the person has chosen this life autonomously. I guess I am puzzled by Nordenfelt's use of the word definition here. A has not defined the concept welfare or given a new meaning to the word "welfare." Perhaps we could say that that person has defined the sort of life s/he wants to live. But it does make sense to say that A has chosen, among a number of candidates, the life that A prefers to live. In that sense, the prudentially good life is the life that a person prefers to live.

Even if we distinguish two senses of a preference satisfaction theory of welfare, one where we mean that a person is well off to the extent that most of his/her preferences, on a one by one basis, are satisfied, and one where a person can be said to be living the life that, were they to choose among a variety of lives, this is the one that that would choose (or prefer to live), and opt for the latter theory of preference satisfaction, we would still need to be sure that Sumner's autonomy thesis is satisfied, namely that our choices of lives is sufficiently informed. But if we use Sumner's criterion, then we run into problems applying this theory to nonhuman animals that are our wards, since we are the ones who will have to make choices of possible environments for our wards. To use Nordenfelt's terminology, how do we determine how much and what sort of *external welfare* to provide our wards? One way of addressing this problem is proposed by Nussbaum (2004), so I want next to examine her "objective" theory of welfare to see what possibilities it has for solving this problem and whether it has any limitations.

Nussbaum Account of Capabilities and Flourishing

In her chapter in the Sunstein/Nussbaum collection,[4] Nussbaum argues for a non-utilitarian, non-contract theory of nonhuman animal entitlement. It is a matter of justice that animals be allowed to exercise those capabilities that give it dignity.

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[4] For a slightly longer account of Nussbaum, as well as the Sunstein-Nussbaum collection, see Haynes (2007).

The flourishing of these capabilities enables an animal to live a rich life, just as the flourishing of human capabilities allows for a rich human life. The (good) capabilities that nonhuman animals share with humans, and that animals are entitled to enjoy include life, bodily health, bodily integrity, senses, imagination, and thought, emotions, practical reason, affiliation, living with other species, play, and control over one's environment. Animals living on their own are entitled to not have the flourishing of these capabilities thwarted by humans. Animals in our care are entitled to have them promoted. In Nordenfelt's vocabulary, these capabilities cover both external and internal welfare. Just as the freedom to develop these capabilities in humans should be protected and supported by law and other social mechanisms, human society ought to protect them for animals. This is a matter of justice.

Nussbaum has a number of criticisms of utilitarian based theories of human and animal welfare that are similar to Sumner's criticisms of hedonism and preference satisfaction versions of this form of subjectivism. One criticism of the preference version, when applied to animals, is that "animals raised under bad conditions can't imagine the better way of life they have never known, and so the fact that they are not living a more flourishing way of life will not figure in their awareness" (p. 305). While the same may be true of humans, the possibility of dialogue with those who seem to accept their oppressive socialization leaves open the avenue to autonomy. Providing a list of good human capabilities, like providing a list of things that standardly have prudential value for a species, leaves open the possibility for individual humans to choose their own version of the good life. But when applied to nonhuman animals, Nussbaum argues for a form of paternalism that remains sensitive to the "different forms of flourishing that different species pursue" (p. 313). While a similar form of paternalism is warranted in raising children, children can also be taught to examine critically their own socialization process. What will enable caretakers to determine which capabilities need to be developed in their animal wards?

By "capabilities," I assume that Nussbaum means both what Aristotle calls first potentialities as well as second potentialities. I may be born with the capability to love others (first potentiality), but actually being able to love others (second potentiality) requires considerable development. To determine what capabilities need to be developed is a way to sort out the good (first potentialities) from the bad. For humans, the criteria seem to be what is consistent with harmonious living, both with others and with the activities associated with other capabilities. Killing others out of spite is not a good capability. For humans, there is a rich body of shared experiences that we can rely on to determine which capabilities support human flourishing. How can we tell this for nonhuman animals? Partly by analogy. Animals appear to engage in activities that share similarities with human activities, playing, and being able to move, and socialize, for example. But how can we tell what forms of these and other activities are truly rewarding for the animals that engage in them? There seems to be a lack of the shared forms of life through which humans learn to choose the most rewarding capabilities to actualize. Nussbaum's solution to this problem seems to be that our experiences with animals enables us to see when they are flourishing and, in fact, we use these examples of flourishing to identify species specific forms of life. These flourishings are the activities that we wonder at and respect in other species. While we know that animals play, how do we identify which forms of activities count as play in a particular species? And how can we tell which possibilities for playful activities might be most rewarding for particular animals were they to be developed under our tutelage? As far as I can tell, Nussbaum uses two criteria. (1) Those activities that we wonder at as characteristic of that species, and (2) are genetically enabled. Thus if we can teach a dog that was bred to be a runner how to actualize this potentiality, then we are enabling it to flourish. But if we teach a chimp to use sign language to communicate with humans, we are not enabling it to flourish, since the communication skills of chimps are used to communicate with other chimps, and they don't need human taught sign language to do that. This solution strikes me as problematic, for it assumes that animal wards should associate primarily with their own kind and not with other species, including humans. But we know that animals of one species are quite capable of bonding with animals (including with humans) of other species. At one place in her essay, Nussbaum seems to take each species as setting an evaluative (as opposed to natural) norm for what counts as flourishing, yet this must be qualified.

> … a no-evaluation view, which extracts norms directly from observation of animals' characteristic ways of life, is probably not going to be a helpful way of promoting the good of animals. Instead, we need a careful evaluation of "nature" and possible changes. Respect for nature should not and cannot mean just leaving nature as it is, and must involve careful normative arguments about what plausible goals might be.

At this point, it seems appropriate to ask Nussbaum two questions. (1) How does her view differ from Rollin's account of an animal's *telos*? And (2) What role might a *science of animal welfare* play in identifying what those plausible goals may be? A third question also comes to mind. When we determine those goals, are they species specific or can they also be set for individuals? I will look at the last two questions in Part III.

Nussbaum also seems to hold an implicit contract view of what we owe farm animals, even though she rejects contractarian moral theories in general. In regard to life entitlements, Nussbaum says that, while the killing of young animals would still be problematic, it "seems unclear that the balance of considerations supports a complete ban on killing for food." What if "animals were really killed in a painless fashion, after a healthy and free-ranging life" (p. 315)? In regard to vegetarianism she is hesitant because we do not know what the effects would be on the environment and on some young children if we depended solely on vegetable protein[5] (p. 318). She holds the same ambivalent attitude toward using animals in research (p. 318). She is also uncertain about what we owe animals in the wild and whether we should engage in "predation" to control populations in the wild. I will come back to these issues in Part III.

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[5] For a discussion on this issue see the selections in Sections Two and Five in Sapontzis (2004). Most of the authors in these sections argue that women and children do not need meat to be healthy.

Conclusion

In regard to a theory of welfare for nonhuman animals, I find Nussbaum's view superior to Nordenfelt because she is better able to deal with issues that an animal custodian must face in deciding what form of life we owe our animal wards. Of course, Nordenfelt declines to take a position in regard to our ethical obligations to animals, especially animals raised for food. But his preference satisfaction view of welfare, it seems to me, makes it more difficult for him to address the issues that a more paternalist commitment to our animal wards would need to answer. How can we be assured that a particular environment is one in which, while the animals in it seem satisfied with their opportunities, this satisfaction is the result of their own conditioning or ignorance of what is possible. If the best we can say is that they are *relatively happy*, how can we be assured that this is all that is ethically required of us. The capabilities approach at least sets some minimum standards for happiness. Perhaps Nordenfelt could reply that his distinction between internal and external welfare could be used to handle this problem.

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Chapter 14
Conclusion to Part II

Although the review I have given in Part II of the reflections of representatives of the animal welfare community is very selective, I think it is fairly representative of those who have written about the ethical and conceptual commitments of those in the animal welfare science community. My review shows, I think, that, while there is an acknowledgment by members of this community that there are value assumptions (and ethical commitments) that lie behind contentions about how to properly conceptualize animal welfare and about what sorts of obligations we have toward animals in our charge, the range of conceptualizations considered and the articulation of competing ethical positions is overly narrow, and this narrowing of the range continues to foster a scientific appropriation of animal welfare concerns. There also seems to be a tendency to confuse a theory of welfare with an account of the sorts of goods that are generally of value to various species. This is all that animal welfare scientists need to investigate. Since my own view, which is based on the Sumner/Haynes model of welfare, is that caretaking/care giving duties imposed on wards also imposes an ethical obligation on those who assume these duties to provide the kind of care that we assume child custody imposes on the child's custodian, I find these positions guilty of reformism.

However, in criticizing the appropriation of the concept of animal welfare by animal welfare scientists and their apologists, I do not mean to imply that the science has produced no valuable results in supporting a "critical anthropomorphism" about what sorts of treatment of animals in our care truly benefits these animals and which is unlikely to benefit them. A "purer" version of this science, I will suggest at the end of Part III, is very important for ensuring that caregivers preserve the "autonomy" of their wards.

I have made a distinction between reformist goals and reformism. I have no objection to those who argue that it is better, for the time being, to focus on improvements in animal welfare that have a chance of being accepted rather than to focus on liberationist goals. My criticisms are twofold. (1) Some alleged reformists are actually guilty of what I have called reformism, which they justify in several ways. One way is to give an impoverished view of animal welfare. I have tried to point out where I think this has taken place. (2) While some acknowledge that killing animals for food is harmful to their welfare, it is nevertheless justified if the conditions under which they are raised are improved enough so that it is a fair deal for the animal to exchange being

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raised under these conditions for their eventual slaughter. In Part III I will examine some of the arguments given to support this position.

Theories of Welfare

Mensch, Duncan, Fraser, Sandoe, Nordenfelt, and others have attempted to classify theories of animal welfare, not always agreeing on how this should be done. The standard distinction is between objective and subjective theories. (1) Roughly, if an animal is in a certain condition, which can be objectively determined, e.g., it is able to cope with its environment, or to act according to it *telos*, then regardless of how they feel about this, or what they are feeling, they are well-off (objective theory). (2) Animals are well off if they are feeling good, for the most part, e.g., little pain and frustration and a fair share of good feeling, like pleasure or desire satisfaction, or. if they are satisfied with their situation or in one that they prefer to be in, then they are well off. The subjective theory I have argued for requires that an animal is well off only if it is *justifiedly* satisfied with its life. None of the theories we have looked at include this element of justified satisfaction, though Nussbaum's comes closest to this position. This is an important lack, since theories lacking this element are in a better position to argue for reformism.

For example, Rollin, though he wavers between being a reformist and subscribing to reformism, appears to set minimum conditions for welfare, though he does not elaborate very much on what an animal's *telos* includes. His standard examples are "birds gotta fly and fish gotta swim." The subjective theories we have looked at seem to be either hedonistic or preference satisfaction theories, and are vulnerable to the criticisms that both Sumner and Nussbaum give of such theories.

Theories of Fairness

There are several arguments given to support reformism. One is an alleged contract between an animal and its caretaker. The contract is fair because domestic life, even if it includes slaughter, is preferable to life in the wild. Or, death is not really a harm if it is relatively painless. Or, if animals were not bred for consumption, they would not have existed at all, so a short life is better than none at all.

Ethical Theories Used to Justify Reformism

Some form of utilitarianism is the preferred theory for justifying reformism, so reformism is vulnerable to the standard criticisms of utilitarianism.

In Part III, I want to examine some of the arguments that have been employed to set limitations on the custodial model that I support. I especially want to focus on the *contract* model alluded to by Rollin and Appleby and implied by Sandoe et al. when they raise the issue of a *fair deal*. I will then lay out my own view about what role a suitably reformed science of animal welfare might play is aiding animal custodians to perform that custodial duties and discuss some of the difficulties my own view will have to face in deciding what sorts of relationships humans can have with animals that are ethically acceptable.

Part III
Giving Animals What We Owe Them

Chapter 15
Introduction to Part III

In Part III, I first want to examine various arguments in support of the claim that suitably reformed farming practices that lead to the eventual slaughter of animals for food consumption are, nevertheless, a fair deal for the animals involved. There are several versions of this argument and I want to look at them in Chapter 16. Then I will try to develop a general theory of what moral obligations we have to animal in the various contexts in which we have relationships with them. This I will do in Chapter 17.

Several writers have appealed to the idea of a tacit contract between domestic animals and their owner/custodians. The idea apparently goes back to antiquity. I have no serious objections to this idea if it is used to argue that we have quasi-contractual obligations to the domestic animals for whom we have taken responsibility and from whom we benefit. Some who appeal to this idea clearly have in mind using it as the basis of an argument for reformed farming practices (e.g., Rollin, 1995; Larrére and Larrére, 2000; Lund et al., 2004; Appleby, 1999). However, when it is used to put limits on our obligation to our wards, then it is objectionable, especially when it is used to justify only limited reform rather than abolition of practices detrimental to the animals, such as slaughter resulting in a significantly shortened life. However, there are issues raised by some who use this model, such as Lund et al. that do need to be considered, namely what role should humans play in protecting animals from predation, both domestic animals and animals in the wild, and, in the absence of the use of predators to control animal populations, what role should humans play in population management?

If, as Nussbaum argues, justice requires permitting all animals to flourish, how can humans justify managing wildlife populations and also permit predation? In Chapter 17, I shall try to suggest a theory of justice that, I think, is better equipped to deal with these issues. I will also examine some of the difficulties that my own position might face and try to develop, at least a sketch, of a general theory of what we own nonhuman animals.

A particular problem that my own conception of welfare must face concerns the motivations that humans might have to undertake such demanding caretaker roles other than the simple desire to form bonds of attachments with their wards. In an attempt to address this question, I will also look in Chapter 17 at the legitimacy of

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humans undertaking care-taker or care-giver roles for other motives, such as using animals for work, including entertainment. Under what conditions are we entitled to employ animals for these purposes? Another issue that we need to address is whether and to what extent we are obligated to rescue animals in distress and what obligations we might have toward the rescued animals?

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Chapter 16
The Fair Deal Argument

In this chapter, I want to examine various arguments in support of the claim that suitably reformed farming practices[1] that lead to the eventual slaughter of animals for food consumption are, nevertheless, a fair deal for the animals involved. There are several versions of this argument and I want to look at them. The first one is the contractual model. A related argument is that since we bred them, they owe their lives to us and it is only fair that we decide when they die. Closely following the contract model is the claim that a short fairly agreeable life is better than none at all, or that domestic life is better than life in the wild. A third argument, though not strictly claiming a fair deal for the individual, nevertheless claims that on utilitarian grounds (or even inherent value grounds), it is better that more than fewer hedonically agreeable lives exist, however short each life is. This is often called the "logic of the larger" argument. A fourth argument is that in exchange for being protected from wild predators, the protectors need to function as predators themselves in order to manage the populations of their herds. Finally, I want to examine the difference between a "caretaker" model of human-animal relationships and a caregiver model.

The Contractual Model

Several writers have appealed to the idea of a tacit contract between domestic animals and their owner/custodians. The idea apparently goes back to antiquity. I have no serious objections to this idea if it is used to argue that we have quasi-contractual obligations to the domestic animals for whom we have taken responsibility and from whom we benefit. Some who appeal to this idea clearly have in mind using it as the basis of an argument for reforming farming practices (e.g., Rollin, 1995; Larrére and Larrére, 2000; Lund et al., 2004; Appleby, 1999). However, when it is used to put limits on our obligation to our wards, then it is objectionable, especially when it is used to justify only limited reform rather than abolition of practices detrimental to the animals, such as slaughter resulting in a significantly shortened life.

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[1] A similar set of arguments can be used to justify the use of lab animals.

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It seems to be a reformist role that Rollin puts it to when he talks about the husbandry contract between pre-intensive farming farmers and their livestock.[2] In earlier systems, there were mutual benefits exchanged between the farmer and the livestock. Rollin mentions the human-dog relationship as a perfect example of a social contract between humans and animals. Although there is some evidence to support the claim that at some point in time, dogs, or their early ancestors, chose to associate with humans, it is more controversial to claim that this "choice" was made by all domesticated animals. To support the claim that some sort of choice was made by the ancestors of domestic livestock, Coppinger and Smith (1983), etc., and Budiansky (1992), using the Coppinger thesis about neoteny, argue that the ancestors of domestic livestock gradually started developing a commensal relationships with humans, with the result over time that genetically determined skills that were useful for animals living in the wild (in conditions where humans were considered among the various predators that an animal needed to guard against) became less useful, so were no longer instrumental in selecting which traits were passed on. So as the ancestors of domestic animals became more dependent on human-animal commensality, genetically determined traits that interfered with this relationship (fear of humans as a potential predator) were replaced with traits that supported animal dependency on human relationships for care. Since such dependence on caregiving is a characteristic of young animals, which they outgrow when they become adults, animals that preserved these youthful traits had a better chance of surviving than animals that grew into adults. Hence, the survival value of neoteny.[3] In short, dependency creates incompetence. On these grounds, Budiansky claims that the early ancestors of current domestic livestock "implicitly chose" this relationship on the grounds that it was to their benefit because they were now the type of animal that depended on human caregiving and no longer fit to live without it. Rollin seems to have a view of this sort in mind when he talks about the traditional contract between a farmer and the farmer's livestock. The contract model is explicitly appealed to by, for example, Larrére and Larrére (2000), and Lund et al. (2004). Lund et al., however, see it more as an ideal that regulates the obligations of the keeper to the kept rather than a justification for introducing restrictions on the liberty of the kept. Nevertheless, they are rather vague about just what roles livestock are to play on organic farms other than keeping the grass down and adding manure. They do seem to restrict livestock to cattle and just those fowl useful for pest control. But they also seem to justify sacrificing calves in order to keep the on-farm animal population in control and see it as a form of "wild-life management" justified on ecological grounds. However, they do not make clear why other forms of management are not used that do not require slaughter, unless one of the important roles that cattle are to play is the production of milk. In which case, calf production is a necessary by-product of diary farming, and so it is less benign than the sort of livestock farming sanctioned by Comstock (2000) (kill animals for food only when they become too old to find their lives tolerable).

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[2] As I noted in the chapter on Rollin, it is not always clear whether Rollin is a reformist or is committed to reformism. See Chapter 9 above. Also see Patterson (2002) for a challenge to the idea that pre-intensive farmers treated their animals more caringly.

[3] There seem to be two issues here: the extent to which neoteny evolved and the extent of the role it played in domestication. See, for example, Hemmer (1990) and Price (2002) for evaluations of these claims about the extent of neoteny and the role it played in domestication. There is also the question whether fear of humans for any animal is learned or innate. Interestingly, Midgley argues that it is humans who are most neotenous. They are the ones who preserve their child-like nature in their commitment to play, etc. (1983, p. 119).

The neoteny thesis, even if we do accept it, fails to show that individual animals, who are bred into captivity, choose their domestication, nor do dogs or other pets born into domestication make this choice. However, one could argue that while individual animals do not make that choice, it is still the best deal for them because they could not survive in the wild. But this claim does not seem to apply to pigs, for example, who seem to do quite well in fending for themselves when they turn feral, as do cats and dogs. So the contract model would only serve the justificatory purposes for which it is introduced (limited reform) if we can argue that domestication gives a "fair deal" to livestock and so they ought to choose it. As caretakers and domesticators (we socialize and otherwise train animals to aspire to a certain sort of life, thus limiting their aspirations to other sorts of lives), then, we are entitled to *construct consent* only on the grounds that we are helping them achieve autonomy. This model of constructed consent[4] could be said to apply to the parent child relationship. Good parents are entitled to be "paternal-maternal" because, in knowing what is ultimately good for their child, they can make decisions in its behalf ("is for their own good"). But this model does not seem to work when the ward is to be used in ways that are ultimately to its disadvantage (think of a parent raising its child to remain dependent on the parent when the child becomes an adult in order to ensure that the adult-child continue to provide the companionship that care-dependency provides, as we often do with our pets).

Another argument, which I have not seen made, is that animals have signaled their consent to the contract" by allowing their keeper to provide them their keep, who has relied on their performing their end of the contract, thus appealing to the contractual doctrine of *reliance*.[5] But the doctrine of reliance seems better suited in an argument that the caretaker should continue to provide care because the caretaker has allowed the wards to rely on this.

They Owe Their Lives to Their Breeders

This is a brief argument that is easily rejected. We bred our children, but this does not give us the right to decide when they die. Both Sapontzis (1988) and Rollin (1981) make this point about our children.

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[4] See Chapter 5 in Part I.

[5] Performance is rarely required in such quasi-contracts.

A Short but Agreeable Life Is Better Than None at All

The main obstacle to a constructed consent model to justify restricting the liberty of livestock is that it is hard to see how including an early death in the contract can be seen as consentful. Appleby (1999) tries to argue that it can be on the grounds that the life of the individual animal would not have been otherwise engendered by its caretaker, so it is better for the ward to have lived a short but happy life than not to have lived at all. As Salt (1914) pointed out, I do not see how this comparison can be made since we cannot make sense of the choice: would you rather live a short happy life (a year or two) or not live at all (perhaps we can make sense of the choice: unless you have a painful operation you will die, within a few weeks, and if you do have one and it is successful, it will only add three years to your life). If the only condition under which livestock species can be preserved is that they be raised to play the traditional role of livestock, then I see no grounds for agreeing with Appleby's argument that it is better for them to live a short life than none at all. At any rate, the argument would hardly hold for many animals raised under current conditions because their lives are most likely miserable. But Appleby uses the argument on the assumption that suitable reforms are made in the way animals are raised.

Domestic Life Is Better Than Life in the Wild

Appleby also argues that domestic life is better for domesticated animals than wild life is for wild animals because the populations of various species of livestock far exceeds the populations of any species of wild-life (mammals and birds, at least). But in order for this argument to have any merit at all, one would have to show that at the individual level, the average life of the individual was greater for domestic animals than for their wild or feral versions. Under current practices, beef and dairy cattle probably average five years, but most other animals used as meat live less than a year.[6] And Kheel claims that only 5% of wild animals are killed by other animals (2004, p. 336).[7]

The Logic of the Larder Argument

Strictly speaking, the logic of the larder or the replacement argument does not really apply to the issue of whether a short, relatively pleasant life followed by a premature death is a fair deal for the individual animals involved, since it takes as the moral good or value certain states or conditions independently of whose states they are. The argument presupposes that life has instrumental value not specifically for the individual whose life it is, but for the production of these states. The analysis and criticism of the argument given by Matheny and Chan (2005) assumes that farming practices continue as they are, so their analysis would not apply to a suitably reformed set of practices. Ferré's use of this argument (2004) assumes that farm animals in a suitably reformed set of practices live a relatively pleasant and face a painless, if premature death. Appleby makes the same assumption. For a critique of Ferré's version and the version used by Singer (1979), see Sapontzis (1987, pp. 177–196).

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[6] See Tables 1 and 2 in Matheny and Chan (2005, pp. 583–586).

[7] Kheel cites Lackner (1984, p. 12) for this data.

Slaughter as a Form of Wildlife Management

Lund et al., however, make an interesting use of the contract fiction that can be seen as raising some important issues regarding wild-life management. Their concerns are for how to apply the contractual idea to organic farming, which is committed to developing and maintaining an *agro-ecosystem*. Larrére and Larrére also claim that the contract fiction is meant to apply to community to community relationships and not to individual-individual relationships, suggesting that breeding decisions are left within the animal community and are not made by their keepers. If we see breeding decisions as made within the animal community, just as they are within wild-life communities, then the slaughter issue could be seen as a solution to the problem of managing wild-life populations that might normally be taken care of through predation. If humans protect their domestic animal communities from predation, then they must play the predator role themselves to manage populations at the level where they are consistent with the agro-ecosystem that has replaced the "naturally managed" ecosystems of wildlife habitat. This argument seems disingenuous, however, for two reasons. It would not apply to modern breeding techniques, which clearly are designed to select for traits that are more suitable to the goals of animal farming, and it is not the only alternative to managing farm populations, which could include selective sterilization of male calves, a technique increasingly used to manage feral cat populations, for example. The Larrére and Larrére model would make sense only where breeding decisions are left up to the herd or flock.

But thinking of slaughter as a form of human predation needed to manage domestic animal populations does raise the issue of wildlife management and of the role of humans in protecting wild-life from predation. If we think of the moral relationships between humans and nonhumans on an individual basis, how do we spell out our moral obligations to wildlife? Several strategies have been suggested as a way of avoiding this issue, the most common one being to distinguish between human-animal relationships that have been individualized (pets and animals used in research) and community to community relationships that do not individualize moral obligations. While Larrére and Larrére apply the community to community ideal to farm animals (illegitimately, in my mind), others have done so either by arguing primarily for only negative individual rights for individuals (e.g., Regan's the right to be left alone) or by placing the issue of wild-animal life within the realm of protecting ecosystems (e.g., Callicott). Both types of solution, however, seem to presuppose that some absolute boundary can be drawn between human managed systems and natural ecosystems, a presupposition that is easily challenged.

So the question remains, "How do we conceptualize our moral relations to nonhuman animals?" I shall try to address this issue in the next chapter, where I identify some problems that my own autonomy model of welfare must address.

Caretaking and Caregiving

Rollin (2005) discusses the notion of reasonable partiality in accounting for our partiality to those with whom we have bonds of friendship and mutual caring to illustrate what he hopes will be a newly emerging social ethic about animals. Currently, we distinguish between animals we use (food animals, lab animals, etc.) from animals that we consider to be our companions. The ethic of caring requires that we treat companion animals as members of our family, or as intimate friends. Our current social ethic only requires that we use other animals humanely. Following a distinction that Kheel (2004) makes, I have found it useful to distinguish between caregiving and caretaking and the ethics of caregiving and the ethics of caretaking. I have noted in this distinction in previous chapters, mostly in footnotes. Rollin suggests that once the public becomes aware that utility animals are no different from companion animals, our attitude toward them may change. Whether or not this is likely to happen, I have argued that animals we choose to breed or otherwise assume responsibility for become our wards. I want to insist on the distinction between caretaking and caregiving because throughout the discourse that so-called enlightened or humane animal users have developed to support their resistance to animal protectionsists, we find claims about animal caregiving based on informed (professional or expert) views about what is in the interests of the utility animals that users or their professional support network make use of in their work. But even in the best intentioned users, the management ethic of taking proper care of a useful piece of property dominates. Claims that good animal models require animals in good condition reveal the implicit criteria appealed to in determining what counts as an animal in good condition. The ethic of caretaking requires that the caretaker protect the value of the property that they are in charge of taking care of. The rhetoric of caregiving used by animals caretakers in the context of utility animals (e.g., lab and food animals) conceals the type of interest that animals users have in "caring for" their animals. So the argument that professional "caregivers" are the most knowledgeable about what is in the true interest of their animals "wards" does not serve the purposes for which it is intended, i.e., to claim that well-cared for utility animals have their interests protected by this sort of caregiving-taking.

Conclusion

The caregiver model seems a more appropriate way of modeling the relationship between the producer and livestock, but this model, when used to determine the duties a parent has to its child, seems to imply that the caregiver make the sorts of choices for its ward that are consistent with the ward's future autonomy (or its constructed autonomy). As Rollin puts it in his 1981 work, the fact than an animal owes its existence to its breeder no more makes it the breeder's property than a human child is the property of its parents. We do not think that a parent is justified in killing their child just because the child owes its existence to its parents' breeding choices.

If we use my version of the custodial model, then there is still an important role for animal welfare scientists. That role is to find out what sorts of things are standardly beneficial (and harmful) to the animals of the various species that humans want to become caregivers for, so that caregivers can be sure that they provide authentically good lives for their wards, for whatever reason caregivers undertake this responsibility. But to perform this information-providing role, animals welfare scientists must go beyond preference testing for a narrow range of environmental conditions, and expand these conditions in much the same way parents are expected to find out what is in the best interest of their children when they become adults, and thus prepare them for adult living. But, while the parent-child relationship is useful here, it suggests that the primary motivation for taking on a custodial role is to care for those that we can love. How can this motivation be applied to nonhuman animals wards currently regarded as utility animals? This question will be one of the topics of the next chapter.

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Chapter 17
A General Theory of Our Moral Obligations to Nonhuman Animals

The Sumner/Haynes framework in discussing animal welfare has the followings features: When we appraise the welfare of others, we are concerned with finding out how satisfied they are with the way that their life is going. But we also want to know whether their ambitions are properly enlightened and have been formed with a relatively high degree of autonomy. Otherwise, we might think of someone who is willing to settle for what we would usually consider to be a poor lot that they have been oppressively socialized to believe that they only deserve what they have or that what they have is fitting for the kind of person they believe themselves to be. Similarly, when we appraise our own life in terms of how well it is going, we look to see how well we are achieving our prudential aims, but also we may wonder whether we ought to modify some of them in order to be more or less ambitious in what we hope to secure out of living, and in doing this, may also wonder to what extent our ambitions or lack thereof have been influenced in ways that we ought to reject in our own interest. We also wonder whether something would truly benefit (or harm) us if we acquired it, and whether engaging in various sorts of activities would serve or be contrary to our interests. One limitation in applying Sumner's view of human welfare to nonhuman animals is the likelihood that nonhuman animals may lack the ability to stand back from their lives and try to assess how successful they are, or think about the extent to which their goals are realistically ambitious enough. However, there is no reason why we cannot perform both of these functions for animals in our care or for animals whose liberation from oppressive exploitation we are seeking. It should be part of the goals of an enlightened animal welfare science to perform these tasks in behalf of animals used by humans to serve human purposes in the sense that the science should seek to discover what really is in the interests of the animals that we are using, at least at the generic level, and what is contrary to their interests. They can do this by starting with a list of things that are standardly of prudential value to sentient beings (comfort, health, lack of stress, pleasures, absence of pain and fear, etc.) and then try to find out what produces the desirable and undesirable experiences for various types of animals. To do this, as I have suggested earlier, does not require a theory of animal welfare. It is not clear to me, however, that the second task, assessing the authenticity, in Sumner's words, of these goals, has been appropriately acknowledged as one that is incumbent on animal custodians (or liberators). So the Sumner/Haynes framework

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invites us to look at the moral responsibilities of both assessors and custodians to identify authentically appropriate goals for animals being used by humans and to aid animals in our care to achieve these goals.

In the literature we have been reviewing, there is some acknowledgment that assessors and custodians have such responsibilities, but there appears to be a poorly reasoned out account of just what these moral responsibilities entail. Where they are discussed, although the issue of fairness is raised, it is raised in the context of asking whether animals are getting a fair deal. This way of posing the question of fairness suggests either (1) that some impositions or restrictions of liberty are justified on paternalistic grounds, or (2) that there are deals that animals ought to make (or have made) that are fair. Hence, the contract model.

According to my conception of animal welfare, an animal can be said to be happy to the extent that it is justifiably satisfied with its life, and third party assessments of animal welfare should be based on the extent to which an animal ought to be satisfied with the particular life it has available to it. An important criterion for the justification is whether the types of life an animal may choose from, given the alternatives made available to it, represent a reasonable set of opportunities. If the set of opportunities are impoverished, given standard background conditions, then it is reasonable to claim that the animal in question ought not to be satisfied with what it has had to settle for, just because it has been trained to expect nothing more than what is available. In assessing human welfare, the role of autonomy is to assure that a person is fully aware of the opportunities available to it, and, in assessing the degree to which a particular set of social constraints are reasonable, autonomy also functions to warrant our claims that the opportunities made available by the background social conditions should be considered acceptable or fair. Applying this to third party assessments of animal welfare, we should judge that an animal is well off to the degree that it has available to it the range of opportunities that it should be reasonable to expect that it have. While it may be difficult acontextually to say what a reasonable range should be, it seems much less problematic to say what this range should be when human caretakers control the range. We can put the question in this sort of context in this way. “How much happiness should caretakers/caregivers of animals be morally required to provide for their animal wards?” That depends, I think, on how the caretaker/caregiver acquired their custodianship. If the caretaker is responsible for choosing to bring the ward into existence, then I think it is appropriate to use the analogy of the parent-child relationship. A responsible parent should only undertake to engender a child if they are prepared to provide it with a relatively rich childhood that will provide the child with the opportunities it needs to flourish (to use Nussbaum’s language) once it has achieved independence. Responsible parenting thus requires an adequate availability of resources, whether they be personally owned or available within the larger social context. If we apply this to animal wards, then assuming custodial duties by choosing to breed an animal would require the availability of a reasonable amount of resources and the commitment to make substantial expenditures on behalf of the ward. But if this is the requirement, we can next ask why anyone would undertake the assumption of such demanding custodial duties. One obvious reason is that the custodian values the social bonding with their ward, as a parent loves their child. Clearly, many people value their pets for this reason. Since assuming custodial responsibilities for an animal or a group of animals involves a financial commitment, are there legitimate motivations other than the desire for companionship that would entitle as well as motivate someone to take on these responsibilities? Is it, for example, ethically legitimate to use animals as workers, providing they are properly cared for? If so, are the custodial responsibilities the same? And are they the same when we rescue animals in distress? I want to look at both of these cases. And finally, I want to consider what our responsibilities are for managing wildlife.[1]

Animals as Workers

Manning (1996) raises a number of issues in her "Caring for Animals" paper about our relationship with work animals. How can we tell when there is consent? What is a fair exchange? How and when does a person become responsible for the care of an animal? What are our obligations to wild animals? None of these are easy questions to answer, but I will try to suggest some ways of approaching these questions.

Animals as workers present several problems, whether the custodian bred and raised the animal or acquired it from others. I include under the worker category a large range of activities, such as working dogs (watch dogs, seeing-eye dogs, K-9 dogs), draft animals, animals used in research, animals used for their products (eggs, wool, milk, manure), animals used for pest control and for maintaining pastures or controlling the growth of unwanted vegetation, animals used in entertainment, and in displays, such as zoos and aquariums. Since the custodian generally controls the off-work environment of the working animal, this environment must be such as to foster animal flourishing when they are not working. The off-work environment must provide the working animal with the social environment that it needs. In cases where the social environment is a human one, then the person(s) using the animal must provide a loving atmosphere that encourages human-animal bonding. If an animal is acquired, then presumably it has been taken from a different environment, and this change of environmental poses special problems. A separate problem is whether the working animal (assuming that the work is not just the exercising of some capability that permits a flourishing activity), received a fair exchange of value for its work. Lund et al. (2004, p. 35 ff.) use the manager-worked model (they also use the partner in work model) to conceptualize this relationship. But I think this is not an appropriate model to use, since traditionally mangers are concerned with getting the most from the workers consistent with the worker being willing to work efficiently.

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[1] Palmer (2007, p. 196) gives a more detailed analysis of the various relations we can have with animals, and lists eight types of relationships.

Rescuing Distressed Animals

We may also acquire responsibilities when we rescue distressed animals. Here our obligations depend on what other resources are available elsewhere and what we can afford. But this raises several issues. What do we owe animals in distress that have been engendered by other humans? What do we owe feral animals in distress? What do we owe wild animals in distress? To try to answer these questions, I will try to lay out a theory of justice for animals that provide some general guidelines. I will rely, for the most part, on the theory that Nussbaum (2004) articulates and try to amend it where I think it is needed.

A General Theory of Justice for Nonhuman Animals

The main purpose of the practice of administering justice is to protect the weak and vulnerable. This is a position that Sapontzis develops (1987) and Nussbaum also argues for. Nussbaum's version is that all animals have an equal right to lead a flourishing life. This claim seems intuitively sound to me. The principle implies that humans ought not to interfere in an animal's ability to flourish. But what if there are other impediments to an animal's flourishing? Are humans obligated also to try to remove these impediments where they can? One such impediment to animals living in the wild is predation. Are we obligated to prevent predation, even if there is a conflict between the prey's flourishing and the predator's flourishing? And what are we obligated to do when the flourishing of particular animals is destructive of wildlife habitat, or of resources that humans need to flourish (pest control).

There have been a number of attempts to address these questions. One attempt that Nussbaum rejects is the appeal to what is natural. Predation is a natural phenomenon that frequently results in controlling otherwise out of control populations of prey. But, Nussbaum says, what is natural is not normative and if we want to work toward some form of global justice, we need to think about changing the natural. Another proposed solution to the general problem of aiding animals in distress is to rank human obligations, giving priority to those nearest to us, including nearness in species. Midgley (1983, p. 122 ff.) has good arguments to reject this argument, since humans, evolutionarily speaking, are the best positioned to feel sympathy with other species. Lund et al. (2004, p. 41 ff.) see killing as not a major problem in an ecocentric ethics, especially in agro-ecosystems where humans are the top predator in the food chain and must take the responsibility of maintaining an ecosystem that keeps populations in balance with the food supply. I proposed a number of years ago (1996) a theory of justice that might help solve part of this problem. If we regard life as requiring the use of scarce resources, and all living things are entitled to an equal share of these resources, proportioned out to normal life expectancy (and size and population levels?), then those who take or demand more than their fair share of these resources are demanding more than they are entitled to and forego their rights. For example, raccoons in habitats where they have few predators deplete their environment by killing off various species of ground nesting birds and radically change their environment in a way that is detrimental to the system's biodiversity. Similarly, feral pigs are allegedly destructive of their environments by their rooting habits, taking away from other animals resources that they need. Justice requires that steps be taken to reduce this excessive consumption. The same is true of feral cats. Whether sterilization can work as a solution remains to be seen.[2] One problem with this approach is that it is usually the case that it is the size of the population that produces environmental damage rather than the individuals that make up that population. To address this problem, we could add as a criterion for unjust consumption of scarce resources the criterion of fecundity. Animals that tend to out produce their resources lose some of their rights to continued consumption.[3]

Another issue is whether humans are justified in attempting to protect prey from their predators or even obligated to do so. Sapontzis (1987) argues that we are thusly obligated, though there are few cases where this can be done without a wholesale elimination of the predators. Although humans are obligated to try to manage ecosystems that are unstable as a result of human influence, wildlife management is a very tricky business.

We could add to my own principle of distributive justice a principle of productive justice. Animals that create more resources than they consume are entitled to more consideration when we are considering reducing over populated ecosystems.

Preserving Species and Zoos

Should we preserve endangered species by putting them in zoos or other sanctuaries? If we have to feed them meat, when even their role as a predator in an ecosystem is lost, the sacrifice of the meat-supplying victim seems pointless. Nussbaum does propose a solution that the Bronx zoo used for allowing tigers to exercise their hunting capabilities by substituting a large ball on a rope for a gazelle (p. 311). But other than the issue of preserving an existing tiger's life, what is the point of preserving the species if it is only for humans to wonder at? If a member of an endangered species – such as a tiger – is being used in a zoo to preserve the species when it is unlikely that there will remain any natural habitat for future members of this species, then the individuals being housed in zoo habitats for this purpose are being used as workers when the main reason for preserving the species is for humans to view individual members of that species. While it is acceptable, in my view, to use zoos as habitats for rescued animals that can no longer thrive in their natural habitats, using them as exhibits is using them as workers. In such cases, we need, as custodians, to ensure that their habitat is adequately rich. Otherwise they are being used exploitatively. And zoos being used as habitats for rescued animals should not keep exhibitions going by allowing for continued breeding of rescued animals if the environment for the offspring is not adequately rich.[4]

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[2] Anderson (2004, pp. 295) argues that over-grazing rabbits have such a generically uniform life, that one day does not add anything new to the next day, so they have less of a right to continue their existence when they are destructive of their ecosystem. Appealing to the alleged quality of life of an animal does not seem to me to be a legitimate justification for eliminating that animal when choices have to be made.

[3] For an interesting set of arguments about how to deal with wild animals in an urban environment, see Sheppard and Light (2007). See also Palmer (2007), who distinguishes between urban feral animals, invasive exotics, pest/scavengers, commensal, and captive wild.

National Parks

What principles we are to use in deciding which animals to protect in National parks is a widely discussed topic and I have no suggestions about how to deal with this complicated topic. For a detailed account of some of the problems in developing a philosophy of park management, see Lemons (2007).

Conclusion

I have argued that a commitment to maximizing the welfare of the animals under human care would require major changes in the way we treat work animals, and perhaps even animals we consider our pets. If there is to be a science of animal welfare, it seems unlikely that its practitioners will be associated with animal science departments, as they currently seem to be. It is more likely that they will be found in veterinary schools or associated with zoo animal care. Rollin (2005) suggests that if the American public, which is largely sympathetic with traditional pet animals, knew how their meat animals were treated, they would start demanding similar treatment of farm animals. Those reformists who seem to think that more humane practices, including humane slaughter and transportation, would make animal farming morally acceptable are, I think, unrealistic about the radical changes that suitably reformed practices would require and the effect they would have on the price and availability of meat. While I do not agree with Singer's position that death is not a harm for most animals used as a source of human food, I do agree that were people to know about how the animals whose products they eat were treated and how extensive and expensive reforms would have to be to make these practices morally acceptable, they would, in effect become vegetarians. While the terms "humane slaughter" and "euthanasia" are used to make killing animals for food, killing them in research projects, and disposing of them when they become unwanted pets, pet lovers, once they extended their species bonding to nontraditional pet animals, would find killing animals, except to relieve them from suffering in the case of terminal diseases or injuries, morally and emotionally objectionable.

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[4] See also Dale Jamieson's argument against zoos in "Against Zoos," 1985. See also Dunayer's criticisms of zoos and aquariums, 2001, Chapters 7 and 8.

In the concluding chapter, I will attempt to review the ground that we have covered in this book.

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Chapter 18
Conclusion: Competing Conceptions of Animal Welfare

I have called this book “Competing Conceptions of Animal Welfare” for several reasons. Although Major C. W. Hume’s introduction of the expression “animal welfare” was resisted by many lab animal scientists in the US, who preferred to talk about “animal care,” the use of “animal welfare” came to be the dominant expression in the public dialogue about what care we owe the animals we use both in science and for food, vis., the Animal Welfare Acts of 1970 and 1985. Lab animal scientists in the US seemed to resist discussing the concept of animal welfare by deferring to the professional judgment of the expert. However, within the US there emerged a number of “animal welfare advocates” who called for reformed practices in the way that animals were currently used in science. These critics argued about how we should conceptualize “animal welfare.” In their view, current practices did not promote animal welfare. In this sense, they were promoting a different conceptualization of animal welfare that stood in competition to the one implied by current practices. In this context, animal welfare advocates distinguished themselves from “liberationist” or “anti-vivisectionists” or “animal rights” advocates by arguing that suitably reformed practices would make the use of animals in science morally acceptable. It has been my thesis that if we correctly conceptualize animal welfare, using a correct account of human welfare[1] as our model, respecting the welfare of animals would require eliminating most of their use in science and all of their use when slaughtered for food. So true animal welfare advocates, if they correctly conceptualize “animal welfare” would be indistinguishable from “animal rightists.” That is one sense of what I mean by “competing conceptions.”

In Europe, with the emergence of the notion of an animal welfare science and animal welfare scientists, there emerged a more self-conscious dialogue about how to conceptualize “animal welfare,” and competing conceptions were articulated. I have discussed these in Part II. As discussed by animal welfare science experts, claims about correct conceptualizations were, in effect, attempts to appropriate the

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[1] As Nordenfelt notes, “quality of life” is the preferred term when talking about human, while “welfare” at least in socio-economic literature, refers to providing basic support for people in need, nevertheless, welfare and well-being are perfectly acceptable terms to apply to humans when talking about the quality of their lives.

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concept of animal welfare, by taking it away from critics. My thesis has been that each of these conceptualizations were lacking, and they each fail in their attempt to support suitably reformed practices as morally justified. As I say in the Introduction,

> The thesis of this book is that members of what I shall call the "animal welfare science community,"[2] which includes both scientists and philosophers, have illegitimately appropriated the concept of animal welfare by claiming to have given a scientific account of it that is more objectively valid than the more "sentimental" account given by *animal liberationists*. Since its beginnings in the mid-1920s, this strategy has played a major role in arguing for merely limited reform in the use of animals, and is frequently employed or assumed by those in what Jasper and Nelkin (1992) call the *animal welfare movement*, as distinguished from the *animal rights* or *animal liberationist* movement. This strategy was initially employed as a way of "sympathetically" responding to the abolitionist claims of anti-vivisectionists, who objected to the use of animals in research. It was subsequently used by farm animal scientists.

To support my own "abolitionist" position, I have used Sumner's account of human welfare and modified it to apply to animals, and I have found Martha Nussbaum's account of animal flourishing, in spite of my reservations regarding some of her indecisiveness about the use of animals for food and for research, a useful way of talking about my modification of Sumner's view when applied to animals. Both Sumner and Nussbaum stress the importance of autonomy in self-evaluations of one's own welfare, and Nussbaum applies this notion to criticize preference satisfaction accounts of animal welfare. The ethical implications of this conception of animal welfare are that animals users who control the lives of the animals they use have, in effect, assumed custodial responsibility for these animals and should be committed to provide for these animals in the same way that they are ethically required to provide for their children. Just as parents need to be paternalistic/maternalistic is making decisions about what is best for their children, and help them develop the capabilities that will enable them to lead a flourishing life, so animal custodians must do the same thing for their animal wards. The main difference between human children and animals is that most children become independent of their parents and, if suitably equipped, can make their own decisions about the sort of life they want to live. Animal wards, to the extent that they remain in the custody of their guardians for their entire life, are not able to make comparable choices about the best way to live, and so they will need their guardians to make these choices for them.

In Part I of this book, I have focused chiefly on the welfare of animals used in science, and I have tried to show how lab animal scientists, including lab animal veterinarians, consistently tried to resist publicly supported external regulation of their use by appealing to expert judgment of proper use. In Chapter 4, I discussed some of the regulatory issues raised in connection with the 1985 Animal Welfare Act and show how animals users resisted the imposition of regulations that imposed "engineering standards" for housing by arguing for "performance standards," leaving the criteria undefined and the resulting evaluation left to the judgment of professionals. In Chapter 5, I discussed how mandated Institutional Care and Use Committees were appropriated by the animal users that dominated the committees, and I try to argue for a theory of constructed consent based on the Institutional Review Boards that originally were meant to serve as a model for IACUCs. My position was that instead of weighing the cost to the animals against the benefit for society, the current practice, we should weigh the cost to the animals against the benefits to the animal to see whether the proposed use was the sort of good deal for the animal that an animal custodian, acting in the interests of the ward, could judge that it was in the interest of the animal to participate in the proposed research.

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[2] I distinguish between scientists involved in trying to improve the housing conditions of animals models used in scientific research, which goes back to the mid-1920s in Great Britain, and the 1950s in the US, and animal scientists responding to the Brambell Commission report, who self-consciously adopt the nomenclature "animal welfare science."

Then in Chapter 6, I argued for a sounder interpretation of the notion of "psychological well-being" than that offered by the committee of experts assigned the task of interpreting the mandate in the 1985 act that animals be housed in such a way as to promote their psychological well-being. My interpretation, which was essentially Aristotelian, is similar to Nussbaum's notion of flourishing.

In Part II, I focus mainly on the idea and development of a science of food animal welfare that emerged from the Brambell Commission's mandate that animal welfare be studied scientifically, and I describe and criticize the discussion that emerged with the food animal welfare science community about how to properly conceptualize and study animal welfare. Within this discussion, there are clearly *competing conceptions of animal welfare*, and a certain amount of philosophical discussion of the ethical implications of these conceptions. Rather than describing each of these "schools" of thought about welfare, and then discussing them, I have chosen the strategy of examining the discussions of a selection of some of the more articulate and philosophical animal welfare scientists and some of their philosopher colleagues. I think that my choice reflects the range of positions held, either by the discussants themselves or by those that they describe and raise objections to. I think that this group represents the more sophisticated analyses within what I describe as either a *reformist* point of view or a point of view that I call *reformism*. Reformists$_1$ argue that, given the current state of public opinion, it is more fruitful to argue for reformed practices rather than the total elimination of the practice of using animals for food. By *reformism*, I mean the view that suitably reformed practices are all that are ethically required. One view shared by those who hold a reformism view is that death is not really a harm if killing is done humanely, a position widely shared in the community that uses animals in research or for food.

I started, in Chapter 9, with Bernard Rollin, an American philosopher who has written widely on morality and our use of animals, including a pioneer work published in 1981 and an important history of different views about animal consciousness. He has also published books on farm animal welfare and a book on veterinary medical ethics. Rollin conceptualizes animal welfare as the ability of an animal to act in accord with his/her *telos*. I suggest that Rollin seems to waiver between being a reformist and subscribing to reformism. Then, in Chapter 10, I try to give an account of Ian Duncan's views. I chose Duncan, an welfare animal scientist, for two reasons. He gives a good account of the various schools of thought about animal welfare and advocates his own position, which emphasizes the role of feeling in animal welfare. In stressing the importance of feeling, Duncan confronts the question about how we can scientifically know what animals feel, and talks about the use of preference testing to help determine this. Since I think that there are important problems with preference testing, I wanted to take a look at how this position was supported and what role it was supposed to play. Duncan also raises questions about the role of value assumptions in conducting scientific inquiry about animal welfare, but I think he is unclear about just what this role is.

My third choice of a representative from the animal welfare science community was David Fraser, also a welfare animal scientist. Fraser is both a critic and an advocate of a more sophisticated form of preference testing, and I share some of his criticisms and reservations about preferences revealed in preference testing and their connection to the welfare of the animal. Fraser also raises questions about the role of value assumptions in using science to assess and define animal welfare, but I argue that his discussion of the role of value assumption is confusing and unclear. He seems to confuse finding out what is standardly of prudential value to a members of a species and theorizing about how to conceptualize animal welfare. I also criticize his typing and evaluation of different ethical theories as applicable to the tasks of animal welfare scientists.

I devoted Chapter 12 to the team of Appleby and Sandoe, the former an animal welfare advocate and the latter a philosopher. As a team they have coauthored a number of works and seem to share views about how to conceptualized animal welfare and what ethical implications to draw from their views Of those I have considered so far, they are the first to draw comparisons between human and animal welfare. They provide a survey of different theories of human welfare and find analogies with animal welfare theories and then argue that there are no sure grounds for picking anyone of these over the others, since the controversies among philosophers are unresolved. The same is true of ethical theories about what is owed animals, but they do raise the question of what is a fair deal for food animals. But to answer this question, one has to adopt a moral theory or point of view. They identify three and disqualify the animal rights point of view because it does not lead to the compromises needed to give acceptable arguments for reforming, but not eliminating food animal practices. What kind of compromises are acceptable in a less than perfect world, they ask, and argue for a "hybrid ethical theory." I argued that their list of ethical positions is overly narrow. Although they come across as reformists$_1$, Appleby, in his 1999 book, seems to argue for reformism by claiming that a suitably reformed set of practices gives animals a fair deal. But he, as most others in the group we are considering, do not count death as a harm.

In Chapter 13, I looked at the views of Nordenfelt and Nussbaum. Nordenfelt, in his 2006 book comparing human and animal theory of health and welfare, ends up by adopting a preference satisfaction theory of welfare, a view he also attributes to Sandoe. Nordenfelt distinguishes between a preference satisfaction view that considers the good life as a life of accumulated individual preference satisfactions, and another sense of preference satisfaction that says that the good life consists of the life we prefer to live. While this comes close to Sumner's view, Nordenfelt does not adequately develop a theory of autonomy in deciding which life we should prefer. His one example of someone changing their minds about what life they prefer does not cover preferences based on oppressive socialization. I am also critical of his classification of happiness as an emotion rather than a condition of one's life.

I included Nussbaum's 2004 article in this chapter because she does adequately address the issue of autonomy, and while she seems to argue for what some call an *objective* theory of welfare, her version of it seems appropriate for the sort of decisions that animal custodians must make in behalf of their wards. She argues that as a matter of justice, all animals are entitled to a flourishing life and it is morally wrong for anyone to prevent such flourishing. I am willing to adopt her analysis for my own purposes, except I do not agree with her indecisiveness about whether eating meat and using animals in research is justified.

In Part III I first criticize the contractual model for claiming that animals get a fair deal when they are used for suitably reformed practices that includes their premature death (Chapter 16), then in Chapter 17 try to develop my own theory about our moral obligations to nonhuman animals, based, in part of views developed by Sapontzis in his 1987 work and by Nussbaum more recently, appealing to the idea that justice supports an animal rights position that would eliminate most current practices.

A final note. While assuming that my analysis and arguments are cogent, I do not really expect those in the animal welfare science community to be influenced by this book, unless they decide to reject reformism and simply argue for the most reforms we are likely to be able to get in the near future. But it is enough for me if it leads to a rejection of reformism. In so far as animal welfare scientists have tried to identify what would count as improved conditions for animals being used for food and research, I applaud their efforts. I have no objection to working for reform.

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